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TITLE: Electronic commerce system receives user inputs to actuate graphics user interface responsive advertisement to complete E-commerce transaction corresponding to advertisement

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ABSTRACTED-PUB-NO: WO 200042593A
BASIC-ABSTRACT:

NOVELTY - A web server (26) receives user characteristic data from a browser (12). A neural network trained using several user characteristic selects the first advertisement (ads) corresponding to user characteristic to be displayed to the user. The web server receives the user inputs to actuate the graphic user interface (GUI) responsive ads to complete E-commerce transaction corresponding to ads.

DETAILED DESCRIPTION - The web server displays the first ad on the browser, whenever the user is viewing a predetermined web page associated with first ad.

Purpose of Option

USE - For conducting transactions using transaction enabled advertising and integrated electronic commerce services for impulse purchases such as compact disk for sale on music site, for purchasing tickets, for providing transaction processing services to online market place.

ADVANTAGE - Maximizes profit on the offered portfolios, since the system supports extranet reporting available to partners and the ability to dynamically remove out of stock or unprofitable offers from the outgoing portfolio of offers is improved.

DESCRIPTION OF DRAWING(S) - The figure shows the transaction enabled advertising system.

Browser 12

Web server 26

CHOSEN-DRAWING: Dwg.1/12

TITLE-TERMS: ELECTRONIC SYSTEM RECEIVE USER INPUT ACTUATE GRAPHIC USER INTERFACE RESPOND ADVERTISE COMPLETE TRANSACTION CORRESPOND ADVERTISE

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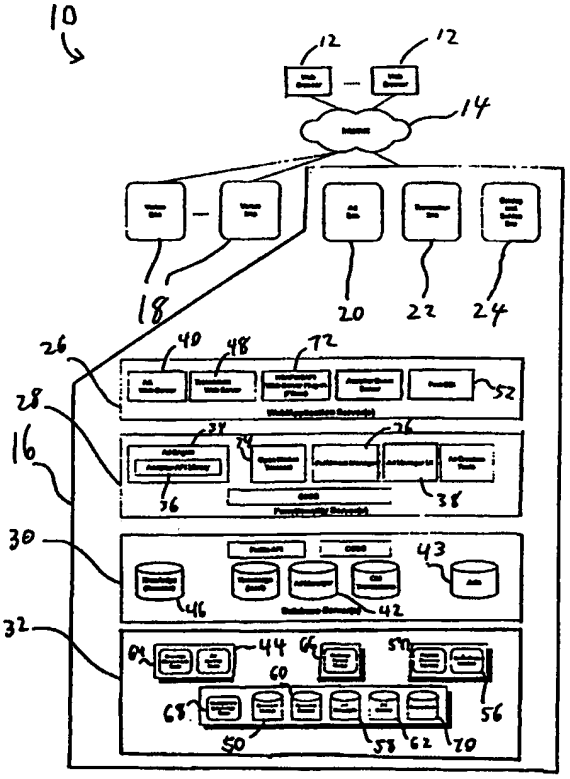
(54) Title: SYSTEM AND METHOD FOR TRANSACTION ENABLED ADVERTISING

(57) Abstract

A transaction enabled advertising system (10) includes an advertisement database (43) for storing ads, and a web server (26) operatively connected to a browser (12) for receiving user characteristics form the browser (12), for causing a display of a first ad having GUI responsiveness, from the ad database (43) corresponding to the user characteristics to provide targeted ad delivery, and for receiving user inputs to actuate the GUI–responsive ad to engage in and complete an E–commerce transaction corresponding to the ad. The web server (26) dynamically targets the first ad corresponding to the user characteristics, and may include a neural network (40) for selecting the corresponding first ad to be displayed to the user. The web server (26) displays the fist ad on the browser (12) whenever the user is viewing a predetermined webpage associated with the first ad. The transaction may be conducted using a user–selected currency.



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SYSTEM AND METHOD FOR TRANSACTION ENABLED ADVERTISING

BACKGROUND OF THE INVENTION

This disclosure is directed to electronic commerce, and in particular to a system and method for conducting transactions using transaction enabled advertising and integrated electronic commerce services.

Advertising is one of the two main sources of revenue for owners of Internet websites. Total revenue is projected to grow exponentially over the next few years, as indicated by all industry commentators, including Gartner, Jupiter Communications and Forrester. The compound annual growth rate for the on-line advertising market is projected to be 72 % per annum between 1996 and 2002, according to Jupiter Communications, compared to an annual growth rate of 6 % in the advertising industry as a whole. These projections are supported by actual results in the last two years, as on-line revenue has grown in line with or exceeded projections.

There has also been a shift in the type of companies advertising on-line. Initially spending has been dominated by technology companies but increasingly, more mainstream consumer goods companies are allocating budgets to Internet advertising. For example, Volvo spent $ 1 million on-line out of a total campaign budget of $ 13 million during 1997, according to Jupiter Communications, 1998 Online Advertising Report, p.107.

Despite these positive indicators, there is still significant scope for improvement, since on-line advertising is at present almost entirely focused on promoting brand, or raising customer awareness of websites. It does little to exploit the interactive capabilities of the Internet.

The majority of on-line advertising space is unsold. Estimates vary, but it is estimated by analysts such as Jupiter that only 10 % - 20 % of space is sold. Even the most popular websites have significant volumes of unsold space.

Solutions that effectively exploit the potential of interactivity are therefore likely to find ready audiences in both websites and advertisers.

The second major source of revenue for Internet websites is transactions. There has been a lot of media comment about on-line transactions, but volumes have been held back by a number of factors, including lack of confidence in security, and lack of products for sale. Most websites are marketing-focused, providing information without transaction capability.

The physical security of transactions has been addressed through the wide spread adoption of Secure Socket Layer (SSL). As a result, confidence is now growing in the security and reliability of on-line transactions, and more websites include transaction capability. As a result, there are increasing numbers and types of purchases on-line, for example, Dell was at one time taking $ 5 million to $ 10 million per day in on-line orders, up from $ 1 million per day at the end of 1996, while Netscape launched commerce services on its website in 1997, earning $ 100 million on these services during the year, of which $ 56 million was in the fourth quarter of 1997. Volumes continue to climb rapidly, and projections for business-to-consumer and business-to-business transactions are expected to be an order of magnitude greater than consumer transactions in the next few years.

To date, Internet advertising has been viewed as being of minor strategic importance by traditional advertising agencies. Hence, although these companies are key players in the off-line advertising marketplace, they have been slow to react to the on-line opportunity. The on-line advertising and transaction markets are still maturing. Robust solutions and business models have not yet emerged, although,

given the changes discussed above, it is expected that they will emerge within a relatively short timescale.

Two start up companies, ImpulseBuy and Enliven, have announced early versions of transaction enabled advertising software. These are still in early test versions, and are only aiming to provide a partial transaction service for vendors. In particular, ImpulseBuy and Enliven are merely order takers, which serve ads, collect customer details, and seek authorization for credit card payment, but then pass the order to the vendor, who is responsible for all the follow-up work including processing the payment, arranging deliveries, and handling customer queries.

SUMMARY

An object of the invention is to develop a new electronic commerce business with a major infrastructure service to deliver transaction enabled advertising, an opportunity which requires modest investment, with rapid payback, has significant profit potential, and carries relatively low risk.

Another object is to build a scaleable and defensible Transaction Enabled Advertising infrastructure.

A further object is to develop a leading advertising and transaction infrastructure service which supports:

purchasers buying goods on-line within the confines of a small window on a webpage;

vendors selling products on-line with no or very limited up front investment; and

website owners generating additional ad revenue whilst increasing the retention of customers on their site.

Another object is to generate large transaction volumes.

A further object is to gather, analyze and exploit the transaction and customer data which result from product sales.

The invention is directed to a leading edge, complete computer-based electronic transaction outsource service system and method, which supports: consumers buying goods and services, vendors selling goods and services on-line, websites generating ad revenue while retaining customers, an infrastructure extensible into other types of applications, well-targeted ads with a high conversion rate to sales, rapidly produced and easy to understand management information, topical and/or timely product offerings, and well-priced offerings.

The invention has advantages in that it significantly improves upon what is currently available in the marketplace; provides a leading edge technology infrastructure; improves upon process/technology over time; gets high volumes quickly; leverages existing business relationships for ad space, e.g. GEOCITIES, LYCOS; builds an E-commerce brand through repeated exposure; provides topical and timely product offerings; provides high ease of use for consumers; has the ability to complete transaction without leaving a current webpage; provides membership service for "one click" or "one- click + PIN" purchases; manages the fulfillment and return processes in a relatively painless manner; provides a trusted payment mechanism; offers a responsive help desk facility; and creates a learning system which tests and learns approaches for continuous improvement in program performance, and potentially leverages existing database technology including the ENGAGE database system.

Using the invention, a company can build strong distributor and vendor relationships covering a wide range of products and services, and have the ability to narrowly target ads with a high conversion rate, and also have the flexibility for engaging vendors with the ability to change offers/pricing, as well as 24×7 infrastructure/quick response time to enhance site reputation/credibility. A company

is thus able to provide sites with accurate and timely information about how much the company is earning, provide strong consumer service to help build and maintain brand image, provide information on the progress of purchase available, and support strong relationship with fulfillment agent and vendors.

A new electronic commerce system is disclosed for providing transaction processing services to the on-line marketplace, initially focusing on the transaction enabled advertising (TEA) market. Transaction processing can be thought of as a "buy button" service, which presents offers, processes orders, and handles tracking inquiries on behalf of a third party. Payment services through a third-party merchant service provider such as through NatWest Card Services is also provided.

The Transaction Enabled Advertising (TEA) business fits centrally within electronic payment systems. It is an effective electronic commerce system in its own right, and establishes on-line payments relationships with major vendors.

In implementing the disclosed TEA system, the TEA system includes an advertisement (ad) database for storing a plurality of ads, and a web server operatively connected to a browser of a user for receiving user characteristics data from the browser, for causing a display of a first ad having graphic user interface (GUI) responsiveness, from the ad database corresponding to the user characteristics to provide targeted ad delivery, and for receiving user inputs to actuate the GUI-responsive ad to engage in and to complete an E-commerce transaction corresponding to the ad.

The web server includes means, responsive to the user characteristics, for dynamically targeting the first ad corresponding to the user characteristics to be displayed to the user through the browser, and the dynamic targeting means may include a neural network, trained using a plurality of user characteristics of a plurality of registered users, including user buying histories and user profiles and interests, for selecting the corresponding first ad to be displayed to the user. The

web server displays the first ad on the browser whenever the user is viewing a predetermined webpage associated with the first ad. The first ad may provide E-commerce functionality associated with the content of the predetermined webpage regardless of the ability or inability of the predetermined webpage to offer such E-commerce functionality. The predetermined webpage may be an on-line catalog; and the first ad is an entry displayed in the on-line catalog. The first ad may also correspond to a first product, and the predetermined webpage corresponds to a second product, thereby co-branding the first and second products through the pairing of the first ad and the predetermined webpage.

The web server includes means for receiving a currency selection from the user; and means for engaging in and completing the E-commerce transaction using monetary values in the selected currency. The ad database includes promotional offers, including a first offer associated with the first ad; and the web server includes E-mail means for generating E-mail messages to an entity associated with the user to convey the first offer thereto. The entity associated with the user may actually be the user, or may be a friend of the user specified by the user. The E-mail messages sent to the entity include information about the first offer for later review by the entity at the E-mail address to which the E-mail messages are sent.

The browser operates on any computing device executing application software implementing the browser and connecting the browser to the web server.

Supply-chain management modules may be operatively connected to the web server for implementing and managing the E-commerce transactions executed through the first ad displayed on the browser. A database of revenue values is included and associated with the ads stored in the database, and the dynamic targeting means includes means, responsive to the revenue value database, for selecting the first ad from the ad database to be displayed to the user, with the first ad corresponding to user characteristics with maximum revenue realization potential.

A real-time inventory management module is included for mirroring supplier systems providing the product for the E-commerce transaction.

A product source database and means for tracking are included for tracking the products purchased in the E-commerce transaction to follow product sourcing configurations for tiered supply pricing. A modular data structure is also included for storing data corresponding to different E-commerce partners in a supply chain; and means for revising the modular data structure is used to selectively replace E-commerce partners. Means is also included for dynamically generating pricing for offers provided through the first ad displayed to the user.

Reporting means is provided to track and report financial performance of the ads in the ad database involved in the E-commerce transaction, and may include an extranet available to partners of the E-commerce system. A database of offers is used forming an outgoing portfolio, with the web server displaying only ads corresponding to offers in the outgoing portfolio; and means is provided for dynamically, in real-time, evaluating the offers in the offer database, and for removing offers from the outgoing portfolio of offers which fail to meet a predetermined criteria.

The predetermined criteria includes a predetermined minimum threshold of profitability of offers, and may include a threshold of available stock of products associated with offers. Also included is a database of prices associated with products corresponding to the ads in the ad database; and means for dynamically adjusting the pricing of products over time and for learning consumer pricing sensitivity to such price adjustments.

A payment sub-system is provided for effecting payment of the completed E-commerce transaction. The payment sub-system includes means for dynamically calculating respective monetary values accrued to each party in a supply chain associated with the completed E-commerce transaction. The monetary values may

be in multiple currencies. The payment sub-system includes automated disbursement means for distributing the respective monetary values to each party in the supply chain. The respective monetary values are collated on an individual transaction basis for each product associated with the completed E-commerce transaction, and value distributed on a timely basis and delivered to each user in the E-commerce transaction. The respective monetary values may include micropayments.

The payment sub-system includes revenue projection means for determining anticipated revenue of the E-commerce transaction on a real-time basis, and revenue determining means for determining accruals on settlement of the completed E-commerce transaction.

Using the disclosed system, a front-end offer targeting, delivery and buying process is implemented with dynamic targeting using real-time smart targeting via neural nets etc., leveraging past buying behavior information and consumer interests. Benefits include a more effectively targeted offer which yields a better response rate and higher financial return. These benefits are shared amongst all parties in the supply chain. In use, pop-up ads do not leave the website, and banner ads lead to database-driven offers in a daughter window, so that the consumer does not leave the website. The advantage over affiliate programs as "venues" is that the referring site does not lose the consumer from that site in order to make the purchase.

Contextual selling delivery is provided, with the ability to offer E-commerce functionality linked to the context, editorial content, or other text on a webpage, even without that site itself offering E-commerce functionality, that is, the ability to deliver transactional offers within third-party websites.

An on-line catalog/E-commerce enablement of sites is provided, with the ability to enable transactions from a catalog site. The main benefit is that no commerce technology is required on the site that is promoting the commerce. The

unique value is therefore that it is a very easy way for a third party to get involved in web commerce.

The system has the ability to price in the preferred currency of a consumer, and the ability to co-brand; that is, to leverage products across multiple virtual stores, and thereby decouple the retail branding from the product. Functionality to individualize pages, depending on retail partners selling goods, is provided, as well as the ability to E-mail offers to oneself and one's friends. Products offered within transaction enabled windows or in the context of editorial can be E-mailed to be reviewed later, and may be mailed to any E-mail address, which benefit in that someone may wish to defer purchasing, and this E-mail ability allows the user to take the offer home, or to refer it to a friend.

The system may be device independent, supporting phones, pagers, web devices, kiosks, digital TV, PDAs, handhelds, and/or any IP device. The benefits of device independence include avoiding predictions of market-successful devices, and instead to be poised to take advantage of market trends in technology and device usage.

Virtual supply chain management is also supported, with supply chain-driven campaign management having the ability for the system to present orders with data of the highest revenue potential. Targeting from the ENGAGE software is coupled with propensity of customers to purchase and inherent product profitability data. Real-time inventory management mirrors supplier systems in microcosm, and the system includes the ability to follow product sourcing configurations such that tiered supply pricing, such as for bulk purchasing, is accommodated.

Modular supply chain data structures are provided which enable different parts of the supply chain to be replaced by the most competitive partners; that is, the ability is provided to decouple products from the product source.

Dynamically generated pricing for fixed time offers is also provided, and overall the benefits of such pricing include the ability to modularly include supply chain partners in various roles for later dynamic selection for the fulfillment of consumer orders in the most profitable way possible. Via dynamic multi-sourcing, the system can achieve the highest profit potential; for example, an offer is accepted, and there are various ways to supply it, so the system has the ability to run the scenarios and determine the best way to supply the system. The system is flexible enough to discontinue serving an offer if there is insufficient profit.

An integrated offer/inventory/transaction/reporting system is also provided for effectively managing the incoming impression request portfolio, for leveraging a certain number of impression requests, and for deciding on the best way to utilize them. There is also the ability to tie financial performance to all outgoing offers and to maximize return on offers. There is integration of the different components to effect creative treatment of a specific offer at a specific price linked to a customer interest category.

The system also supports extranet reporting available to partners, and also the ability to dynamically, in real-time, remove out-of-stock or unprofitable offers from the outgoing portfolio of offers, which dynamically helps to maximize profits on the offer portfolio. Dynamically generated pricing provides the ability for the system to dynamically move pricing over time to learn consumer pricing sensitivity. The system has the ability to do this automatically, and so learns how to maximize profit/revenue on a particular product.

Payment and disbursement functionality is also provided to dynamically calculate income accrued to each party in the supply chain, and to pay them to bank accounts through an automated disbursement function, including multi-currency supply chain capability. On a real-time basis, the system pays per unit delivered to a consumer for the services and supplies rendered by all members of the supply chain,

and make this information available; that is, the ability to make micropayments to all supply chain members as revenue comes in from credit card settlements. The system also shows the anticipated revenue on a real-time basis, and shows what accrues on settlement.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 illustrates the disclosed transaction enabled advertising (TEA) system;

FIG. 2 illustrates a portion the system of FIG. 1 with connections between components;

FIG. 3 illustrates example hardware components of the system of FIG. 1;

FIG. 4 illustrates the operational flow between the system of FIG. 1 and external entities;

FIG. 5 illustrates a webpage displaying a TEA associated with content;

FIG. 6 illustrates an alternative webpage displaying a TEA in an ad banner;

FIG. 7 illustrates the webpage of FIG. 6 with a pop-up menu for implementing the TEA;

FIG. 8 illustrates a transaction completion screen;

FIG. 9 illustrates an electronic receipt;

FIG. 10 illustrates an AdManager control screen;

FIG. 11 illustrates a campaign input screen; and

FIG. 12 illustrates a system monitor screen.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

As shown in FIGS. 1-4, the disclosed transaction enabled advertising (TEA) system 10 provides an outsourced transaction processing service for vendors and websites. The TEA system 10 acts as an intermediary for the purposes of processing and information services.

TERMS AND DEFINITIONS

The following terms and definitions are used herein to describe examples of the components, elements, and features of the disclosed TEA system 10.

An ad/advert/advertisement is an item or piece of content, for example, information available on the Internet such as text, graphics, GIF, JPEG, shockwave, button, etc. which is delivered to a viewer in order to influence behavior, specifically buying behavior.

A campaign is an advertising initiative that the TEA system 10 runs for a product, or a logical group of products, such as the New York Times Bestseller list, which places ads on venues, for example, transactional enabled in the TEA system 10, and which selects various strategies and tracks success.

A Click-Through/Click-Into, Click-In, Click-Buy event is an event or occurrence which happens and can be recorded when a visitor clicks or actuates an advertisement.

A consumer is an individual who has either clicked through, purchased or registered in the system 10.

A cookie is a feature of web browsers which allows sites to place a data structure on a user's computer to store various types of client state information. This feature enables ENGAGE tracking, for example.

The cost per thousand (CPM) refers to an amount which an advertiser is willing to pay to achieve 1000 impressions with his/her advertisement. An effective CPM is a measure, in a shared profit or shared revenue model, in which the advertising venue is paid based on the sales success of an advertisement. The effective CPM is the amount which the venue receives statistically per 1000 impressions. For example, if 1,000 ads run, and there are five sales, and each sale is worth $ 100, assuming a venue cut of 2 %, the effective CPM is $ 10. This may be

the most important metric used in gauging campaign success and partner willingness to continue participation.

A fulfiller or fulfillment provider is a partner which has the capability of accepting requests for fulfillment; that is, an order to be shipped to a consumer. A fulfiller "picks, packs and ships"; that is, it assembles products for an order, puts them in a box for shipment and hands them off to a shipper. In the TEA system 10 business model, fulfillers may have to take a feed of orders from the TEA system 10 website and provide acknowledgments and other status messages, including shipment tracking information.

An impression is an event which happens when a person browsing the web views an advertisement. A venue counts impressions as "ads served". Note: "impressions" is a general advertising term, also used in other media such as television.

Ingram Micro is a wholesaler having the ability to supply a large number of products as well as to self-fulfill.

A member is a consumer who has registered with the TEA system 10, and is then able to participate in any future loyalty programs, use the "One-Click" features, have an order information pre-populated or filled into an input window of a GUI, use self-serve customer service without an order number, etc.

A merchant is an entity which sells the product and receives the credit card payment.

A partner is an entity which may be one or more of the following: payment providers, venues, suppliers, fulfillment providers, shippers, wholesalers, vendors, etc. These are the outsourced business partners in the TEA system 10 value chain.

A payment processor is an entity, usually a bank, which processes credit card charges for a merchant. In the TEA system 10 example, payment processors may

have a live connection to the TEA system 10 transaction processing software in order to execute approvals and charges in real-time.

A shipper is a partner which accepts individual shipments for consumers from a fulfillment provider and delivers them to consumers, as well as providing tracking information.

A supplier is a general term for a partner which provides products to the TEA system 10 supply chain.

A vendor is a product supplier which produces products and does not have fulfillment capabilities.

A venue is entity, such as a website, which attracts visitors, by which advertisements may be hosted, and venues also generate impressions. Venues typically sell ad space. In the web example, the venue actually places a call or other messaging communications to the advertiser's ad in the content served to the visitor.

A visitor identifier (VID) is an identifier which is used by ENGAGE to track consumers anonymously from HTTP transaction to HTTP transaction. It is planted in a cookie on the consumer's browser. A visitor is any person who sees content provided from the TEA system 10 through the TEAs. A wholesaler is supplier which generally does not manufacture its own products, but rather aggregates products from multiple suppliers. These entities may have their own fulfillment capability

ARCHITECTURE

The TEA system 10 shown in FIGS. 1-4 addresses different aspects of the E-commerce business model, in which there is a different value proposition for each target audience. For example, consumers generally instantly buy with confidence those products which are delivered promptly. A benefit to customers through the system 10 is the consumers' ability to buy products and services with a simple "one

click" feature. The order process is not an arduous task requiring the input of repetitive information, such as name, address, etc. As shown in FIG. 1, consumers may have access to the system 10 through their browsers 12 and thence through the Internet 14 using a TEA website on the TEA web server 16, which is generally available 24 hours a day, 7 days a week.

Through the TEA website, consumers may be able to check order status, make changes to orders and registration information, and browse an available product catalog at each individual consumer's respective convenience. Accordingly, the consumers are less dependent on the time and knowledge of a customer service representative.

Through the system 10, consumers may receive advertisements tailored to their interests, and so consumers are no longer inundated with advertisements that are of no value to them. Rather, consumers may perceive the banner ads as "relevant information" and not merely "annoying banner ads".

In turn, through the system 10, vendors may engage in selling incremental stock through a well-integrated E-commerce system provided by the system 10, so vendors have an additional channel to sell products and services to targeted consumers. Venues may sell advertising space and generate increasing revenues from product sales, and so benefit by being able to profit from banner space that would have gone unsold via a revenue sharing model.

Referring to FIG. 1, a general system architecture of the TEA system 10 is shown, in which users or consumers utilizing their web browsers 12 to access websites through the Internet 14, including websites 18 corresponding to specific venue sites of venue partners of the system 10. Webpages served by venue sites 18 contain TEAs that in turn are served by the ad site 20 stored in the web server 16 of the system 10 and accessible through the Internet 14. Consumers view both sites 18, 20 through their browsers, while click-throughs and other transaction processing are

directed to the transaction site 22 of the web server 16, resulting in an on-line transaction session. In addition, a catalog and service site 24 of the web server 16 provides on-line customer service to consumers, and also serves webpages with TEAs.

The components 20-24 included in the TEA system 10 collaborate with the venue sites 18, consumers' browsers 12, and external systems described herein such as payment processors, fulfillment systems, etc., as well as each other to provide the TEA services and functions described herein, and to maintain the information necessary to support the E-commerce business for conducting E-commerce transactions and TEA processing.

The TEA system web server 16 includes web/application servers 26, functionality servers 28, database servers 30, and other servers and databases 32. The TEA system 10 integrates multiple software applications, including Accipiter's AdManager application as ad-serving software; TRANSACT application software commercially available from Open Market, a Massachusetts company for capturing user information, for verifying credit card transactions, and for passing secure information between entities; and ENGAGE application software commercially available from the CMGI Group, for tracking the behavior of computers, and anonymously building a profile of a user using the computer and browsers 12.

In particular, AdManager, or AdServer, serves a banner ad onto the webpage, pulling the graphics across, etc. AdManager has ads parked and available to be accessed to run on various sites. Each ad has certain parameters, such as to only run on travel sites, implemented by rules controlled by and programmed by the system administrator. In addition, ENGAGE is used to track users at websites for ad targeting by AdManager, in which cookie technology is used to serve specific banners to browsers according to which offers the user would be likely to respond to.

The first major function of the system 10 is to display or serve an ad to the consumer who is browsing a venue website 18. The determination of what ad to be served is based on one or more factors/criteria of the user profile, including criteria such as who the consumer is, what s/he is doing, where s/he is and/or when s/he is browsing the World Wide Web and other Internet sites. There is substantial processing from the time the web browser 12 requests an ad while loading a page to the time the ad is served. AdManager supports this functionality. Additionally supported is the customizing of some components such as writing C/C++ wrappers around the existing API library supplied with AdManager.

The second major function is processing a transaction after a consumer clicks an ad through the browser 12 to buy an offered product, and submitting the order. TRANSACT handles this functionality, which can be more than processing an order; for example, it can include maintaining the user profile and changing/validating user names and passwords.

The TEA system 10 supports the delivery of advertisements on venues webpages and sites 18, including AdEngine 34 including an Accipiter API library 36 which serves ads, manages visitor ad sessions, and also controls the number of clicks, and impressions served on the webpage. Based on the load requirements, multiple AdEngines may be used. In addition, an AdManager user interface (UI) tool 38 enables the user to configure the AdManager and its corresponding Ad web server 40 to schedule campaigns and to view reports of all ad-related statistics.

AdManager Tables database 42 stores data about the scheduled ads, about visitors, and about target information related to the AdManager, and may include or may be independent of the ad database 43. AdManager filters may be included in Ad content tools 44 and are optional to the CGI clients to make the web server more efficient in dealing with the AdEngine.

ENGAGE utilizes the data generated by any website to realize the full potential of that website. Engage.Knowledge is a product that provides access to the world's largest database 46 of behavior-based profiles of anonymous website visitors. By accessing this database 46, companies such as the TEA system 10 can use multi-site interest profiles of their website visitors for use in real-time personalization applications and targeted ad serving.

This large database of anonymous user profiles, which may also be accessed by a consumer profile tool 50 through the web, delivers information about anonymous users. This product helps in marketing across a broad range of consumers. First time visitors profiles can be created using Engage.Knowledge. Visitor profiles can be leveraged on a single website. It can support up to 70 million individual page views per day. Web visitors can also maintain anonymous profiles.

OpenMarket's TRANSACT is widely used for transaction processing, and order management, and as customer service software for Internet commerce. TRANSACT is used for handling the transaction web server 48 of the TEA system 10. The main features/functionality of TRANSACT include: buyer authentication, real-time authorization and payment processing, secure order processing, automated tax and shipment cost calculation, fulfillment APIs, buyer self-service, on-line customer service, and reporting, proofing and analysis. These operations may be implemented using a transaction server, a settlement server, a subscription server, a log server, and other database servers.

The transaction, settlement, and subscription servers use HTTP as the protocol for communicating with each other, and so provide interfaces that comply with a speed optimized version of the common gateway interface (CGI) standards, called FastCGI 52. Therefore, any server can communicate with any other server using the usual HTTP methods such as GET and POST.

These three servers include HTTP client functionality similar to the core functionality in a browser, and are able to invoke each other, but depend on a general purpose web server for HTTP server functionality. Therefore, any host on which one of these servers resides is also running a webserver. Specifically, Open Market's "TRANSACT 4", a product designed to work with the Netscape Enterprise Server.

The log server provides communications using TCP/IP to create a process that listens to a socket to which the three other servers send records of relevant events and the log server stores these records as it receives them.

The database server does not communicate with other servers using HTTP. Implemented by Oracle or Sybase, the database server is provided with its own communications protocols for being invoked locally or across a LAN by the four other distributed servers.

The advertising and ordering process involves the venue sites 18, the AdServer 40 through the Ad site 20, the Transaction Server 48, as well as a Payment Processor interface 54 and a Supply Chain Interface 56, in addition to the consumer's web browser 12. Venue sites 18 serve pages with content and direct the browser to request TEAs from the Ad Server 40. The Ad Server 40 then uses information in the Ad Campaign database 58, a Consumer Profiles database 50, and Patterns database 60 to select the appropriate ad, which the Ad Server 40 then retrieves from the Ad Content database 62.

Other tools providing including campaign management tools 64, customer server center functions 66, management information tools 68, and stored transactions 70.

Click-throughs on TEAs direct a browser 12 to contact the Transaction Server 48 which responds with an appropriate form such as a login form, a registration form, an order form, etc. When an order is placed, the Transaction Server 48 utilizes the services of the Payment Processor Interface 54 to authorize

payment, and the Supply Chain Interface 56 to begin the fulfillment process. Orders are recorded in the Transaction database 70.

To support and manage the advertising and ordering process, Ad Content Tools 44 are used to create the content 62 of the ads, including text, graphics, ordering/pricing and related information. Ad Campaign tools are employed to setup campaigns and define parameters for scheduling, targeting and rotating ads. This information resides in the Ad Campaigns database 58 and Ad Content database 62.

After an order is placed, consumers visit the Catalog and Service Site 24 to review their orders, inquire about their status, and, if desired, to cancel. The Customer Service Center 66 provides the relevant information from the Transaction database 70. Cancellations are directed to the Transaction Server 48. Consumers can also browse and buy from the catalog site 24 and associated server. For this functionality, the Catalog Server 24 operates like the venue sites 18.

Management information tools 68 provide information and statistics from all of the databases to personnel at the TEA system 10, and to its partners such as venues, suppliers/fulfillers, and shippers. Web servers perform their standard functions, including the use of extensions such as CGI, NSAPI, etc. to export the services of the site's components to the World Wide Web.

In the web/application server layer, there are web servers 40, 48, respectively, for the ad site 20 and the transaction site 22, as well as mechanisms which enable the components in this layer to inter-operate with the functionality servers 28. These mechanisms are NS/ISAPI plug-ins 72 for Ad Manager 42, and FastCGI 52 for TRANSACT 74.

FIG. 2 illustrates how the main components inter-operate in the flow of an on-line transaction. There may be a separation between the ad site 20 and the transaction site 22, and connections between components within each. The external interfaces to the Payment Processor and the Supply Chain partners are also depicted.

FIG. 3 illustrates one possible hardware configuration of the system 10, in which web servers, application servers and databases reside on UNIX systems, preferably Sun Solaris. Campaign and Ad Content Management tools are deployed on a Windows NT workstation or on a Macintosh, which can be acquired from any of the major vendors. The Ad Content database, which may be a file server, can reside on either a UNIX or Windows NT server system.

A communication link is to be provided between the TEA system 10 and its fulfillment partners. Each individual order fulfillment for physical goods flows through the communication link, with a fulfillment engine or manager 76 for the TEA system 10 which fundamentally takes into account that different fulfillment providers fulfill different products, and thus can intrinsically communicate with the APIs of multiple fulfillment providers.

The TEA system 10 is enabled by integrating technologies from Accipiter and Open Market, in which Accipiter AdManager includes the digital offer in its concept of a "campaign". Secondly, Open Market TRANSACT, as part of the fulfillment process, notifies Accipiter of the transaction so Accipiter may track the transactional success of impressions served.

Multiple instances of the Accipiter AdManager can be installed on multiple UNIX machines, which is also possible for the ad web server 40, transaction web server 48 and TRANSACT 74, which has an advantage in sharing the ad serving load and volume, to significantly increase with future business requirements and needs. Another advantage is the handling of any hardware failure of one or more AdManager engines.

Table 1 illustrates the performance of one possible scalable system architecture of the system 10 with multiple Sun Microsystem servers running multiple instances of web servers, ad engines, and TRANSACT.

TABLE 1

Impressions per day (in millions)	15	90.8	127.6	183.4
Transactions per day	13,500	72,800	99,000	142,200

SECURITY

Open Market TRANSACT uses the industry standard Secure Sockets Layer (SSL) protocol to insure that transactional information is communicated privately between consumers and the TEA system 10. SSL provides data encryption, server authentication, and message integrity for a TCP/IP connection between the client and the server. SSL provides a security "handshake" used to initiate the TCP/IP connection. This handshake results in the client and server agreeing on the level of security to use and fulfills any authentication requirements for the connection. Thereafter, SSL's only role is to encrypt and decrypting the data stream of the application protocol being used, such as HTTP. Accordingly, all information in both the HTTP request and the HTTP response is fully encrypted, including the URL which the client is requesting, any submitted form contents such as consumer's credit card number, any HTTP access authorization information such as usernames and passwords, and all data returned from the server to the client. SSL is easy to use and requires no effort on the client side if a browser such as Internet Explorer or Netscape is used.

The order form appears on the browser 12 on the consumer's desktop and is an HTTP/HTML webpage, which is transferred securely to and from the transaction web server 48. This is accomplished with the use of cryptographic technology embedded in the web servers and browsers. In addition, the country in which a browser or a server is located may determine the strength of the cryptographic technology employed.

For data being intercepted on the network as it is transmitted between the client and the server, an example embodiment may include encrypting the data at the point of transmission, and decrypting it at the point of reception, in addition to authenticating the server. Widely adopted methods are known and in use typically for achieving these security aims, and such methods are typically provided free with virtually all web servers and browsers.

Within the transactions stored in its database, TRANSACT encrypts the credit card information using a method that employs both RSA public key and DES secret key cryptography.

In addition, the TEA system 10 utilizes technology called Commerce Objects from OpenMarket. One such object, the Digital Offer, enables consumers to view product offerings, including pricing, while their browsers maintain the information necessary to communicate the acceptance of an offer, such as a purchase, to the TEA system 10. Upon receipt of an offer, the systems at the TEA system 10 must be certain that the offer was in fact created by the TEA system 10, and that once created it has not been modified by anyone.

This is accomplished with the use of a Message Authentication Code (MAC). A MAC is a cryptographic element that in turn employs a secret key and a message digest to ensure authentication, and to detect tampering, respectively.

Application level security is also implemented to control access to the system 10, such as to prevent users from accessing certain functionality or areas of the overall system 10, based on a security-type profile. Application level security may be implemented at the page level. If a user group does not have access to a particular page or area of the system 10, all functionality and data associated with that page or window is inaccessible. The system 10 accounts for this granularity of security according to the characteristics of the user groups. As business requirements change, it is quite easy to alter access rights for a particular group by

modifying the security data in the database; therefore, application level security may be stored in tables in an Oracle relational database.

The prevention of unauthorized access to computers connected to the Internet is an imperative. Commercial websites are especially vulnerable because they contain financial information, such as credit card numbers, and because they are easily identifiable by their presence on the World Wide Web. Security measures including firewalls, network zoning and general system security practices, such as passwords, access logs, and event monitoring, are employed to keep systems secure.

In the TEA system 10, systems with web servers are protected by firewalls, which restrict to web protocols the network traffic destined for these hosts. In addition, commerce applications such as AdManager's Ad Engine and TRANSACT's Transaction and Settlement Servers, reside on separate systems connected to the web server systems, rather than directly connected to the Internet 14. There may also be additional firewalls between these system, to restrict network traffic appropriately. All systems are also monitored for intrusion.

The TEA system 10 has interfaces, such as communication links, to external systems, including the credit card payment processor and any fulfillment system. Each requires an appropriate level of security. Open Market TRANSACT, which conducts the communications with the payment processor, as part of its core functionality, in a very secure manner. However the mechanisms used depends on the particular payment processor, such as the NatWest payment processor. Together with a fulfillment entity, the TEA system 10 may implement an appropriate level of security for a common interface.

EXAMPLE HARDWARE AND SOFTWARE EMBODIMENTS

Operating systems for supporting the TEA system 10 may include Hewlett-Packard HP-UX, Silicon Graphics IRIX, or Sun Solaris. Programming languages

may include C++ for the applications and subsystems, HTML with embedded server-side JavaScript for the user interfaces, and utilities written in either Sun Microsystems Tool Command Language or standard UNIX shell scripting language such as csh.

The databases may be Oracle-based or Sybase-based systems, and the web server may be the Netscape Enterprise Server. Remote invocation may be performed using HTTP with FastCGI 52. Note that for database calls, the database vendors' own invocation protocols may also be used.

AdManager may operate using the Sun Solaris 2.5.1 or 2.6 operating system, or the Microsoft Windows NT Server 4.0, and using their client libraries, or alternatively the client libraries of the DEC Alpha NT or DEC Alpha UNIX systems. For the AdManager, the web servers may include Direct Server (DS), which acts as a web server, and/or Microsoft IIS, Netscape Commerce, Netscape Enterprise, or Netscape FastTrack

The usable web server plug-ins may include those of Apache 1.2.5, ISAPI (IIS 2.0, 3.0, 4.0), and/or NSAPI (Netscape FastTrack 3.0, Netscape Enterprise 3.01). The databases used may include those of Infomix, Microsoft SQL Server, Oracle, or Sybase SQL Server. Supported browsers include Netscape Navigator 4.03 or higher, and/or Microsoft Internet Explorer 4.0 or higher.

The ENGAGE software may be performed using web servers such as Netscape Enterprise Server and/or Microsoft Internet Information Server 3.0 on Windows NT 4.0, and running as operating systems either Sun Solaris 2.51 and/or Microsoft NT 4.0. ENGAGE may also store and use databases on an Oracle Server 7.3, a Microsoft SQL Server 6.5, and/or an Infomix V7.2 server.

OPERATION

As shown in FIG. 4, the system 10 is central to the activities involving vendors and wholesalers, websites, consumers, fulfillment and shipping entities, and payment providers.

From the consumer's perspective, the system 10 provides TEAs on websites visited by the consumer, as shown in FIGS. 5-6. In one embodiment shown in FIG. 5, the TEA 78 is positioned substantially adjacent to content 80 already displayed at the webpage 82 of, for example, the Internet Movie Database. Accordingly, the TEA 78 is related to the content of the website 82, for example, the movie genre. The content 80 may be graphics and/or text for a specific product, such as a videotape or DVD of an available and purchasable movie. The TEA 78 associated with the content 80 may be merely a distinct icon associated with the system 10, such as a trademark, slogan, or other information such as "Cybuy it!", indicating to the consumer that the system 10 provides TEA functionality to purchase the movie corresponding to the content 80 adjacent to the TEA 78.

In an alternative embodiment shown in FIG. 6, the website 82 may also have an ad banner 84 displayed therewith, with the ad banner 84 being a TEA with content 86 related to the content of the website 82 and/or targeting the consumer, for example, by the consumer's interest in movies by accessing the website. Alternatively, the TEA of the ad banner 84 may be unrelated to the content of the website 82 but may still target the consumer according to a user profile of the consumer processed by the system 10 using, for example, a neural network implemented in one embodiment as a component in the ad web server 40 in conjunction with and/or including or included in the AdEngine 34 of AdManager.

As shown in FIG. 6, the content 86 may refer to a purchasable movie, which is apropos to the content of the underlying website 82 which, in this example, is the Internet Movie Database. The use of a trademark 88, slogan, or other indicators

convey to the viewing consumer that the system 10 is available to process a purchase transaction of the product corresponding to the content 86. The entire ad banner 84 may be an actuatable GUI icon for initiating an E-commerce transaction for the product of the content 86.

Referring to both FIGS. 5-6, once the icon 78 in FIG. 5 or the ad banner 84 in FIG. 6 are actuated by the interested consumer, a pop-up window 90 is generated by the system 10 and displayed over the webpage 82, as shown in FIG. 7. For example, the pop-up window 90 may be generated corresponding to actuation of the ad banner 84 in FIG. 6 to overlay the underlying webpage 82. The window 90 may include a logo 92 or other information which may identify the product supplier for the product of the content 86, or may include additional information such as content or a trademark of another company to co-brand the content 86 with another entity. Alternatively, the logo 92 may be another TEA capable of actuation for additional inquiry and purchasing of products.

The consumer is provided with selectable inputs 94, 96 to access pull-down menus to choose versions of products, to select mode of shipping, and to specify other purchase parameters. Additional information 98 may be provided to inform the consumer as to what s/he is purchasing, as well as the price, which may be in any default currency, including a currency selected by the consumer, as described herein. Upon inputting the purchase information by the inputs 94, 96 and upon review of the information 98, including price, the consumer may complete an E-commerce transaction to purchase the product of the content 86 by entering a transaction completion command, such as by actuation of an icon 100.

The system 10 then generates a transaction completion screen 102, shown in FIG. 8, which sets forth the purchasing parameters such as the quantity, a product description, and price in any chosen currency. The screen 102 allows the user to enter additional information such as name, address, and credit card information in

available input fields 104, 106, as well as to change the purchase parameters such as quantity before completion of the transaction. For registered users, some or all of the fields may be filled-in, based on the user's pre-entered information stored upon registration.

The user may then complete the E-commerce purchase by entering a confirmation command, such as by actuating the icon 108. The system 10 then generates an electronic receipt 110, as shown in FIG. 9, which the user can refer to and print.

The system 10 may address diverse situations to service and enhance a user's browsing and on-line purchasing.

User Scenario One: the system can handle the task in which a user browses the CNN website for news and make an unplanned order for a compact disk (CD). Bob is on the CNN site reviewing news information. Bob sees an ad banner for a new Dave Matthews Band album. He had heard people talking about the album at the soda machine. He clicks on the banner. The banner expands/drops down, but does not take Bob away from CNN, since the website is still visible in the background. He sees a good price, and clear information about how/when the CD is to be sent to him. He sees that he could go to the TEA system 10 to get an understanding of who the company is, but decides that he doesn't need to. Bob sees that he has the option to listen to a track from the CD by actuating a displayed icon to play, for example, an AVI file. He chooses to listen to the music. He likes the music, and clicks on the "Buy Now" button. Bob fills in relevant info. Bob gets confirmation and a thank-you message for his order. He also gets a special offer for a cross-sell opportunity, and decides that he indeed wants to purchase a Bare Naked Ladies CD and a Madonna CD as well. Though he notices a box that offers a loyalty program, he decides not sign up. After completing the transaction, he goes back to reading CNN.com by simply clicking on one of the CNN Headlines.

User Scenario Two: E-mail from the TEA system 10 through a loyalty program. Bob receives an E-mail from the TEA system 10. He opens and reads it, and it confirms that his order has been sent, and lets him know when he should expect to see it. The E-mail provides the TEA system tracking number for his purchase. The E-mail also provides a URL for the TEA system customer service, and may provide a customer service telephone number such as an 800 number. Bob is a little anxious, and clicks on the URL, opening his browser. He gets the status of his order, and optionally if Bob is a registered user of the TEA system 10, the page may be personalized. On the tracking status page, Bob sees standard navigation options, including links to a loyalty program, special offers, and a homepage of the TEA system 10. Bob clicks on the loyalty program link. When he arrives in the sign-up area, much of his relevant info is pre-filled into the form. There is information about what kinds of services the loyalty program offers. Bob answers a few questions about his interests, and selects a password.

User Scenario Three: one-click purchase of a magazine. Bob is on-line, checking out his 401(k) on Quote.com. He sees a banner ad for Mountain Bike Magazine. He sees the TEA system 10 logo and/or an "Express Buy" button or icon. He remembers how easy it was to get his Dave Matthews CD, and decides that he wants to order the magazine. He clicks on the Express Buy button, enters his password, and gets a confirmation that his order has been placed. He returns to Quote.com.

User Scenario Four: the unregistered, reluctant user engaging in a first visit. Karl is on AOL, and goes to ESPN.com to check tennis scores. He sees a TEA system banner ad selling tickets to the U.S. Open. Karl clicks on the banner to get more information. The banner opens up to display an offer window, and Karl is reassured when he sees that ESPN is still on screen. Karl clicks on a displayed "About the TEA system" button. A new browser window opens up with info about

the company. Karl clicks on the "Send me a Return to this Offer" E-mail button about this offer. Karl is prompted to enter his E-mail address and assured that his E-mail address and information are not to be sold to marketing lists. He is advised that there is no guarantee that the offer is still available when he gets back to it. He submits the form, the banner closes up, and he returns to ESPN.com.

User Scenario Five: a "Return to this Offer" E-mail arrives. Karl receives the E-mail from the TEA system 10 about the U.S. Open tickets. He checks his Daytimer and confirms that he and his wife are free on the day that tickets are available. He clicks on the "U.S. Open" link on his E-mail, and is brought to the "U.S. Open" offer window that he had been on before. Karl reviews the security features and return to the "About the TEA system" area. He feels comfortable, and decides to purchase the tickets. He goes through registration process, as in the first user scenario.

FUNCTIONS

The system 10 implements numerous functions described herein facilitate set-up and use of the system 10 by administrators to generate TEAs, to target users, etc. FIG. 10 illustrates an example of the AdManager control screen for allowing a system administrator to select and specify targets, to operate with the ENGAGE software and database, to specify areas for the ad targeting such as geographic regions, and to use tags and other components such as templates and ad creation tools to modify ad sizes and ad formats. Additional functions of the system 10 for ad management are described herein.

Through Accipiter's AdManager, campaigns may be created as shown in FIG. 11 to specify and store pertinent information, such as a name for a campaign, the advertisers involved, their contacts, etc. Similarly, through AdManager, a system administrator can monitor the activities of the system 10, for example,

through the screen shown in FIG. 12. The additional functions of the system 10 related to the generation and use of the screens shown in FIGS. 11-12 are described herein.

The system 10 includes a plurality of software applications, modules, and/or sub-systems for providing at least the following functions and features described in greater detail herein, and implemented with the disclosed architecture, the disclosed application software, and third-party and off-the-shelf software known in the art.

AD TARGETING AND SERVING FUNCTIONS

The system 10 provides an Ad Delivery function, which is the ability to deliver ad content, banners or other forms of advertisements, as requested by venue sites. AdManager handles simple image-based ads very easily, and the system 10 also supports rich content such as multimedia. Such ad delivery is compatible with a substantial number of browsers using known methods such as "ACTIVEX" technology, to support a number of ad types such as animation and audio-based ads. The ad delivery function is compatible with ad management software located at the venue of the browser, and is able to fit into new platforms, such as digital TV, as well as extensible to future applications using S8 platform extensibility.

Another function of the system is a Define Basic Rule Set function, which allows for the creation and maintenance of the rules used by the ad targeting and delivery engine to select which ad is served to whom. A tight linkage with campaign targeting functions of the system may also be provided. These features are supported directly by AdManager. Accipiter's AdManager has the infrastructure to handle the Define Basic Rule Set functionality. Rules are defined and then built into the infrastructure provided. To support the definition of basic rule sets, administrators of the system 10 may create, delete, and/or modify ad targeting and delivery rules. Administrators may also use logical operand and connectors, such as

AND, OR, <, >, =, etc., to perform logical operations for setting targeting criteria and exclusion criteria. For example, targeting criteria may include the time, date, operating system, website, page group, domain, geographic location, interest categories, etc. of the users of the browsers. Exclusion criteria may include family filtering and other rules for keeping certain ads off of certain websites and webpages.

Another function of the system 10 is Ad Selection by a Rules Based Technique, in which the mechanism of ad rotation and exclusion is performed in order to tightly target ads to consumers without repetition. In use, such ad selection insures that competitor's ads are not served right after one another to a single consumer, or a competitor's ad on a venue. Such functions included in Accipiter implement rules-based rotation, rules-based exclusion, and access from Accipiter to purchase history in usable form maintained by Open Market.

The system 10 also performs Data Tracking functions, in which the system 10 accurately records the number of impressions served and the environments into which they are served. Through tracking the activity and information of potential and established customers and customers, the system 10 gets smarter and learns about what ads to target to whom. In addition by tracking where in the ordering experience the potential customers drop out, the system 10 is able to spot potential process issues that cause people not to purchase through the TEA system 10. The system 10 supports served environments specified by the corresponding browsers, URLs, webpages, users, and time spent on specific webpages.

Date tracking utilizes visitor identification (VID) numbers to anonymously track a specific user, and may also utilize a member ID of the user, to collect information on the impressions, click-throughs, and transactions of each user. Such tracked information is then usable for cross-selling and consumer information management functions. The prior art suffers from the general inability to monitor activities across the de-coupled systems connected to the Internet, in addition to the

complexity of being able to track visitors' transactional success out from the "back" of the transactional component. This functionality is handled by Accipiter.

The system 10 also supports Push E-mail and direct selling functions, in order to serve offers proactively to targeted customers. Studies have shown that the conversion rates with direct mailing customers that have requested direct mailing are significantly higher than unsolicited mailings. This function gives the TEA system 10 another channel to increase potential sales as well as to build brand loyalty. The amount of E-mail solicitation activity is driven by the availability of the TEA system staff to drive this process. E-mail packages selected by the TEA system 10 may also deliver mailing lists generated by member database queries.

To perform such push and direct selling, the system 10 allows for the targeting of self-selected members to receive such E-mails and notices, and for utilizing third-party mailing lists. The push/direct selling functions may vary a given offer according to customer identity and preferences, and may also have broadcast capabilities to groups or all users of the system 10. The messaging involved may be text and/or HTML-based. Also, the push/direct selling features are preferably linked to the rain check function described herein, and an unsubscribe function is also provided. Through the push/direct selling feature, the system 10 may capture customer interests, and also monitor response and conversion rates.

The system 10 also supports Fixed Offer arrangements, which allow the TEA system 10 to place a specific, non-banner offer statically on a webpage without the necessity for the ad to be served. Fixed offers provide a large number of impressions without requiring AdManager to target and serve an ad. Fixed Ads are closely tied to the page they are resident on and therefore have a high percentage of conversions. This requires the construction of ad content without references to the ad server, but which can be incorporated into the content creation process relatively easily. The only complexity lies in the area of sites which are too small, such as

personal websites, to be treated as venues. The system also distributes ad content directly to venues, and such ad content may be identical to the ad content which is dynamically provided.

To implement such fixed offers, the system 10 may provide the pairing of an image and a click-through sequence to represent a specific offer. The fixed offer may have distinctive characteristics compared to standard banner ads, such as different shapes, graphical borders and/or colors of the ad, etc.

The system 10 also performs Ad Inventory functions to maintain a logical inventory of ads which have been committed by venues, as well as the ability to forecast availability across date ranges and various other dimensions. This function allows for the ability to proactively manage the ad inventory and to forecast potential revenue. Having the ability to see the effects of adding or removing a large campaign gives sales and operations a useful planning tool. The value of providing this information supplements the ability to use manual techniques to track inventory, so that the manual inventory can then be compared with campaign actuals.

In implementing the ad inventory functions, the system 10 may allow for the selection of a date range, may specify a history to be analyzed forward, and other factors of existing campaigns to indicate availability. The ad inventory function may perform one-dimensional projections, such as based either on a time-period or URL activity, or may perform multi-dimensional projections based on multiple factors at once, such as both time-periods and URL activity. The ad inventory functions permit the system 10 and its administrators to reserve inventory and to account for buying impressions.

The system 10 also performs Dynamic Assembly functions, to allow for the construction of advertisements from components based on ad targeting rules with the aim of putting the ad which is most likely to convert to a transaction in front of the prospective customer.

Dynamic assembly of ads provides the ability to tailor ads very specifically to users by constructing them from components as they are requested. Colors, images, information, and international components such as language and currency can be adjusted on-the-fly to target customers more specifically and therefore increase the conversion rate.

Ad Manager's function is to select ads that are appropriate to a given context, to retrieve them from a static data store, and to serve them. Dynamic assembly uses a complex rules-based infrastructure integrated with the Ad Engine. By implementing rules linking to or excluding components depending on pre-stored component identifications and definitions, the dynamic assembly can tailor the ads to the prospective customers.

The system 10 also provides Ad Selection using neural networks or nets for improving the current ad selection engine provided by Accipiter AdManager by adding additional variables and dimensions, as well as leveraging existing variables and dimensions as input to a neural net based targeting engine. It is intended for this function to be more robust over time as the system 10 learns about the targeting criteria and add to its database of user information. This function drives a long-term competitive edge for the TEA system 10. The ability to target ads with a higher potential of converting to a transaction is a key differentiator for the TEA system 10. Any commercially available neural net-based decision support product known in the art may be used is required to provide these features. This capability may also be provided as a discrete plug-in to AdManager.

Using a neural network, the system 10 is capable of learning more about users to make ad recommendations with strength and also to provide a continuous advantage of the system 10 over time. Generally, the neural network considers ads which Accipiter and its rules do not already exclude; that is, the neural network preferably does not override the exclusion rules. The system 10 may support and

run multiple neural net engines; for example, with a single neural net focussing on a predetermined geographic region for sales and ad placement.

ENGINE LEARNING AND OPTIMIZATION FUNCTIONS

Another function of the system 10 is to provide a Decision Support System (DSS), which is an ad hoc query system/infrastructure of the TEA system 10 information and history to improve the targeting and other business practices of the TEA system 10. The business benefit of this group being able to ask questions is potentially very high. The long term competitive advantage is dependent on high CPM systems, that is, the best selling.

Based on information that resides in local databases, applications can query through and present such information optimize the selling process. That is, ad targeting, campaign strategy, etc. involves individuals who spend time figuring out the right questions to ask, rather than asking a group of previously developed questions. As a result this functionality is actually more of an infrastructure for ad-hoc database querying and report/analysis design. The system is able to track and analyze performance metrics as well as to use a tool set that allows the system administrator to build and expand the system 10 in future.

Thus, the system 10 can tie into and use the available data tables and data bases and capture metadata, and access a report writing tool for generating reports for administrators, such as reportage of statistics of usage determined according to venue.

The system 10 also performs functions to set up and maintain variables and algorithm for ad targeting, to provide the ability to create and modify the parameters used for ad targeting, which augments the current functionality of AdManager for ad targeting, for example, using purchase history. This feature allows the TEA system 10 to enhance the ad targeting functionality included within Accipiter AdManager.

It is a key differentiator over time, as other E-commerce systems and competitors enter the TEA market, that the TEA system 10 has a higher effective CPM because of an excellent conversion rate on impressions. Administrators can create variables for entry of data, and can test and modify ad targeting algorithms.

The system 10 also performs functions to access external data sources, and to improve the targeting of advertisements, and hence the conversion rate, through importing external data that adds to our ability to understand the buying predilection of a potential customer. The ability to leverage external data sources having appropriate information helps the TEA system 10 to target ads more effectively, based on socio-demographic databases, direct marketing lists, and market watching organizations, which increases conversions and use.

Neural net testing is another function of the system 10, to provide the ability to run two or more neural nets in parallel in order to see the effects of changes in variables used in the targeting algorithms. Neural Net testing provides the ability to see the results of modifying the variables in the targeting algorithms. With this information the targeting feature becomes more robust, increasing the conversion rate of impressions to transactions. Comparisons between targeting algorithms may be used to test categorizations of products and venues.

TRANSACTION PROCESSING FUNCTIONS

The system 10 also supports functions using a Present Order Taking Template, in which the system 10, based on the advertisement that has been served, selects and presents the correct order form. The basic order form process allows the TEA system 10 to collect revenue, as well as to provide the ability to cross-sell for increasing revenue and effective CPM, in addition to providing the ability to let the customer know product volume constraints.

The core functions are provided by TRANSACT, with additional functions invoking custom content, for example, in the case of "Let customer know product volume constraints" to provide access to supply chain information as well. The templates themselves also are designed and tied to the appropriate parts of campaigns in Accipiter.

Through the present order taking template, a user may specify a country for shipping and for tax purposes, and optionally may specify a preferred currency for the E-commerce transaction. Also, pre-registered users may receive different forms from anonymous users, in which pre-registered users have pre-filled fields in their orders, since the one-click registration and usage streamlines the ordering process. The order taking template may have a style of appearances of the form corresponding to the look and feel of the actuated ad banner or other ads selected by the user upon display by the system 10. Information in the fields of the template is generated by the system 10, for example, using a component integration application such as a supply chain information system (SCIS) module and using the offer windows initially, and may specify product information as well as the physical delivery information, size, quantity, etc. of the product. Available fields displayed in the template may vary based on the product and/or the types of products. In addition, security information may be displayed and highlighted, and available return policy information may also be displayed and highlighted.

The present order taking template may let a customer know of any product volume constraints, and may support cross-selling as part of the order taking form and process. To implement the template, Open Market TRANSACT functionality and digital offers are used to provide pop-up order forms that sell the advertised product. The TEA system 10 can potentially use variable cursors over the ad banner to generate interest. The use of "bubbles"; that is, graphical drawings of a text in a

bubble, as a method of information distribution through ad banner may keep customer in the order form area.

The system 10 also includes functions to collect complete order information to ensure that all required fields are filled in completely as well as checks that the information entered in those fields are valid entries. Transactional functionality is built upon Open Market TRANSACT, allowing the system 10 to validate a specified country for delivery, as well as customer name, address, telephone, and other information. Shipping and export restrictions are displayed, and a customer's selected delivery date and other information is obtained, such as authorization from the consumer on how E-mail to the consumer may be used in the future, such as promotional communications, product and order problem contacts, etc. Through the collection of complete order information, the system 10 may also permit the user to register as a member and to sign up for one-click functionality.

The system 10 also implements an Authorize Payment function, in which credit or charge card details and total purchase amount are communicated to a credit card authorization center for approval of purchase. Credit Card authorization is used in the order taking process, implemented by existing Open Market TRANSACT functionality, with an interface to a predetermined banking institution, such as NatWest. The order is taken regardless of how the fulfillment request is queued in order to provide a cooling off period for the customer. The system 10 recognizes the credit card scheme rules, including expiration of authorizations after, for example, five days, in the design of the fulfillment communication process.

The system 10 implements the authorize payment functions by processing a card number, expiration date, user name on the card, amount and currency of the transaction, and type of card such as VISA, MASTERCARD, etc., as well as corporate purchasing cards for business-to-business transactions. The system 10 may thus return real-time authorization instead of batch authorization processing, to

return an authorization number or to decline the transaction, and may also support alternative credit card data for authorization if a first credit card is declined. The system 10 may use the predetermined and/or preferred banking institution, or may support alternative authorization and banking providers. The system 10 may also support contingencies, for example, to provide flexibility to wait on authorization to capture payment, by queuing the authorizations, due to the performance or availability of the authorization systems, or lack thereof.

The system 10 also provides a Check/Reserve Inventory function, which performs a check that the amount of product the customer wants to purchase is available for sale. This feature provides value by preventing the overselling of a product, and also by preventing the selling of a product which cannot be fulfilled in a timely manner. In particular, the system never places an ad if the system 10 determines that no stock is available, and so avoids an out-of-stock condition. In addition, the remaining quantity of products available and/or a minimum threshold of stock in reserve may control the display of corresponding ads; that is, if the system 10 cannot fulfill a particular order for a specified quantity, no corresponding ad is displayed.

If quantity is available, the system 10 apprises the customer of the remaining volume. Alternatively, the system 10 may employ a no-limit or a bottomless inventory strategy with contingency plans for fulfillment. On-line inventory queues up until fulfillment and on-line item reservations with fulfillment are also supported.

The system 10 also performs Capture Payment functions, which charge the consumers' charge card, and credit the merchant's account, while also diverting appropriate amounts to individual supply chain business partners. This allows the system 10 to automatically calculate how much of the purchase amount belongs to each of the non-customer partners and send the amount thereto. The TEA system 10 is not intended to be a bank and this function ensures that it does not have to be.

Credit card payment processors have no knowledge of parties involved beyond consumers and merchants. The splits therefore may use a secondary interface to the merchant bank. These may be either aggregate calculations or transaction-by-transaction, for example, using micropayments. This functionality is based on Open Market functionality with an interface to a predetermined banking institutions, such as NatWest.

Contingency interfaces may also be provided, for example, to alternative payment providers, and payment may be triggered by a fulfillment shipment confirmation, either received or shipped by fulfillment.

The system 10 may also support Virtual Point of Sale functions, includes software that accepts the user's sale and converts it into an order, an order acknowledgement, fulfillment requests, payment requests, etc., by using the functionality of Open Market TRANSACT. The system 10 accordingly calculates totals, taxes, shipping, etc. to present to the user for approval, and returns to the user an order confirmation number. The user may be presented with a change order and/or a cancel order option, as well as an option to register as a member user. Links to customer service websites may also be provided.

The system 10 also supports E-mail Confirmation/Rejection functions, to send E-mail to the consumer indicating order status, which is generally sent immediately on receipt of the order from the consumer. The order is placed on hold for a short time as a "cooling off period" to provide some cooling off time for the consumer, allowing the consumer to cancel the purchase after ordering on impulse if the consumer changes his/her mind. After the cooling-off time without cancellation by the consumer, the order is automatically confirmed and the confirmation E-mail is sent. The E-mail may include a link to the self-serve consumer service site. Implemented as part of the Fulfillment daemon with Open Market TRANSACT, the TEA system 10 uses a predetermined E-mail infrastructure or provider.

The confirmation E-mail is always sent upon confirmation by the system 10, and the confirmation E-mail may include information on where the consumer may go for more information, and optionally to prompt the consumer to register as a member of the system 10. The confirmation E-mail includes a URL link to other sites such as the customer service website, and also includes a block of text and/or graphics providing additional promos or ads. The confirmation E-mail may further include a delivery update and/or a message whether there is a problem on the delivery side, such as an out-of-stock situation.

Alternatively, when the system 10 does not confirm the order and/or the credit card of the consumer, a rejection E-mail is sent which includes a declined credit card message, and optionally a message to the consumer to return to the website to rectify any credit card information and/or to use another credit card.

The system 10 also maintains functions for Order Communication with Fulfillment, for processing of electronic communication between the TEA system 10 systems and fulfillment systems. This interface allows the business to scale to large volumes, and to be implemented as a fulfillment daemon utilizing Open Market API's, which monitors pending orders and sends them to the appropriate fulfillment partner at the end of the cooling off period, or a requested delivery date delay period.

The order communication with fulfillment function obtains information through messaging on available reserve stock and release stock, and checks on-line with a fulfiller that stock levels are adequate before confirming with a customer that a transaction is completed. Order numbers and shipping details may also be exchanged with fulfillers, and conformation of an order with a fulfiller is obtained by the system 10. Backup communications such as confirmatory E-mails may also be implemented. Using this function, the system 10 may establish automatic links to lead wholesalers as well as multiple suppliers through, for example, the Internet

using the TCP/IP and HTTP protocols, and alternatively may use low-tech links to multiple suppliers, such as hard copy mailings of order information.

The system 10 also supports a rain check function to provide buy-later capability to customers. This option may assist in overcoming barriers to purchase, and is thus very important to support of the impulse-purchasing model. A rain check may be implemented by the system 10 in the form of an E-mail with a link such as an active URL listing to the Open Market Transact digital offer. Upon receipt of the E-mail message with the rain check message, the customer may actuate an icon or other commands such as clicking a mouse button to defer his/her decision to buy the selected but unavailable product. Alternatively, the customer may be required to redo the order if there are errors in the processing such as a bad CC number. In addition, the system 10 may maintain the goodwill of the customer by providing, in the rain check E-mail, referral information to other suppliers of like or comparable products.

The system 10 also facilitates cross selling using a cross-selling function to offer the ability to a customer to purchase related products as part of a primary transaction. Once the psychological barrier has been crossed and the customer has made the buy decision, s/he may have a less difficult decision to make regarding purchasing other related products. Multiple product purchases increase revenue and increase the effective CPM. Cross-selling involves both the mechanisms to deliver the content and conduct the transactions, and to integrate products into the ad selection software. To enable cross selling at the simplest level, a TEA may be provided on the confirmation page or E-mail of the primary transaction.

The system 10 implements cross selling by determining a simple link between products, such as product links stored and accessed in a table. In addition, rules and other logic may be implemented to select an incremental product beyond the primary transaction to be offered to the customer and having the best chance of

being purchased as a cross sale. Furthermore, special promotions may be provided with two or more products, allowing the user to select one or more products. Alternatively, with the primary transaction, the system 10 may attempt to sell other promo items to the user with a "just add on" option provided to the user and/or a "more like this one" button, icon, or a link to obtain information about related products available as cross-sales.

The system 10 also performs functions for calculating splits using a known split algorithm to calculate the amount of the transaction price to be allocated to each supply chain entity. The TEA system 10 is able to allocate funds for each supply chain partner. Such split calculations use database application software to store pertinent split information, such as simple percentages or flat rates among supply chain partners. In addition, aggregate approaches and value floors or ceilings may be used to split transaction prices and proceeds. A history of such splitting of transactions may be stored in a split history database of the system 10 for further operations, such as taxes, reporting functions, etc.

TAXATION, CHARGES, AND FEE FUNCTIONS

The system 10 also includes a tax calculation function for determining the appropriate sales taxes in the context of consumer transactions. Although the TEA system 10 may not be required to collect taxes in actual practice, by including this functionality, the TEA system 10 is prepared for both collecting and non-collecting configurations. This function is handled by TRANSACT for the U.S. market, and other known software applications may be used for tax calculations in international orders. Alternatively, the burden of calculating and paying the applicable international tax may also fall to the consumer. Accordingly, the system 10 may store information which is continually updated on current tax laws for different taxation jurisdictions.

Similarly, the system 10 provides functions for calculating shipping charges based on shipping parameters corresponding to the consumer or to the purchased product. The ability to calculate for multiple shippers and/or multiple shipping methods adds an element of choice that is attractive to many potential customers. Dynamic calculations and/or the use of real-time information employ Open Market Transact functionality. It can verify that the flat rate charges can handle the different shipping options, for example, for volume shipments. Accordingly, the system 10 maintains and stores information on flat rate charges, for example, in a static pricing grid, as well as information on multiple shipping-type options and multiple shippers. Dynamic price calculations may be performed to provide real-time comparison by customers for best prices. Also, queries may be processed in real-time for fulfillment of shipping costs.

The system 10 also implements a currencies function, using appropriate software and infrastructure for the quotation of product pricing and payments for products in currencies including and/or other than the U.S. dollar. Quoting in multi currencies increases conversion rates significantly with non-US customers. These potential customers are more likely to purchase on impulse if they are not required to make a currency calculation in their head, or look up the currency conversion if they are not familiar with the exchange rate. The ability to tailor the banner price to a country of origin of the consumer gives a very high business benefit.

Accordingly, the system 10 stores currency exchange rates in a database which is continually updated, for displaying to the customer in an order form the total price in a selected currency, and optionally along with the equivalent in U.S. dollars. The selected currency may be user-selected, or may be determined by the currency local to the product supplier, local to the country of the consumer receiving the ad banner, or local to the product displayed in the ad banner having a predetermined currency setting regardless of the supplier.

PRODUCT CATALOG FUNCTIONS

The system 10 may also implement a browse catalog function, in which an on-line catalog is displayable having available product offerings structured by product category type. The ability of a user to browse acts as basic transaction enabled ads in the form of static offers, and also enhances the customer's information for all transactions, offers, and ads. Accordingly, the system 10 stores a static collection of offers of products, and provides full catalog functionality with pricing tied to ad pricing. The catalog may be tailored by membership information of the browsing user to highlight products and promotions; for example, with distinctive colors and/or flashing animations, which the user may be disposed to purchase.

In addition, the system 10 provides a Search Catalog function, providing the user with the ability to target products based on criteria chosen by consumer. The ability for users to perform simple searches of the catalog conveys the perception of a credible website and business. Consumers are given the option of different navigation styles, as well as keyword searching and advanced searching, such as Boolean operations.

The system 10 also performs a Transaction Capability function for supporting product ordering through any TEA link, such that the user should experience no difference between ordering a product from a venue site or the TEA system 10 accessing the venue site, or from an on-line catalog of available products.

The system 10 also provides Shopping Cart functions for storing multiple products for single purchases and manipulating the order, using known off-the-shelf software which can be deployed in a catalog site and which can drive more traffic to the site to make multiple purchases. Using the shopping cart function, users of the system 10 may add and delete items from a personal shopping cart, such as a stored

list of products selected by a user, and users may view the contents of a cart, change a quantity of items therein, and view a running subtotal of the costs of the currently selected and carted items.

CONSUMER SELF-SERVICE FUNCTIONS

The system 10 also implements a Registration function to offer the consumer the ability to register for membership with the TEA system 10 in order to take advantage of one-click and direct E-mail offering features. Registration is advantageous for the TEA system 10 and allows the user to easily order items via a single click. In addition, registration allows for the collection of user information such as hobbies, interests, etc., to allow the TEA system 10 to refine the user's profile so that they can target the users with products that are more likely to be ordered. These features are provided by Open Market TRANSACT. Registration of members, facilitating one click purchasing and direct E-mail campaigns, includes interest questionnaires and interest-gathering games, and uses Open Market Transact to provide PIN/password-based product selection and purchase, and to give permission to the system 10 to use the registered member's information for receiving product promotions. For registered users, the system 10 sends options for offers, and allows multiple registrations of different users who may use the same computer or network.

The system 10 also implements a Check Order Status function which allows a consumer to use the TEA system website to track the progress of the order. Simplistic order tracking functionality is provided, including the ability for customers to reference the shipper's tracking number and to get approximate arrival times once the product has been shipped, as well as customer visibility to the other links in the supply chain. The status of the order as pending or shipped, as well as whether the order was approved, declined, or cancelled. The order information may

also indicate where the shipment is, and may access and display a UPS or FEDEX status form.

The system 10 also includes a Cancel Order function to give the consumer the ability to change his/her mind and cancel an order. Given the nature of impulse orders, consumers must feel secure that they have the ability to cancel an order within an acceptable period of time. Offering this feature increases the consumer's sense of trust with the TEA system 10, using a "cooling off period" purchasing model in which the customer has a time period, such as an hour, to cancel the order. An API may also be implemented which, in response to a user cancellation command, cancels the order with the fulfillment house. Accordingly, the system 10 supports delayed fulfillment by a predetermined time period, such as one hour.

The system 10 also supports a Change Order function which offers the ability for a customer to change an order during the cooling off period. Consumers must perceive the TEA system 10 as a flexible site that does not prohibit them from making alterations to their orders. For example, tickets to sports or cultural events require a greater deal of perceived flexibility due to time and value considerations, while CDs require less flexibility as being time-independent goods. The system 10 allows the user to change the quantity for purchasing more or less of a selected product, as well as characteristics of the products, such as size, features, etc. Other information capable of being modified includes delivery address, payment method, and shipping/delivery date.

Similarly, the system 10 provides a Returns/Exchanges function to offer the ability to the consumer to return a product into the supply chain and for the supply chain partners to be treated correctly in this instance. Consumers must have the ability to exchange and return goods, within standard legal obligations. During use of the TEA system 10, it is critical that consumers do not perceive their actions as irreversible. Accordingly, the system 10 provides the ability of fulfillment to update

the order history, to implement unwinding payments, and to deny returns or exchanges to specific product-driven purchases, such as special purchases, perishables, and intellectual capital-type products such as copyable software. Other aspects of the returns/exchange function include the ability to provide return labels on boxes on products sent from a fulfillment center.

The system 10 also includes a Consumer Inquiries function, to offer the ability to the consumer to communicate with the TEA system 10 and to send an E-mail to human service personnel for further action. Consumers need to feel that there is a person behind the machine and that they always have the option of speaking to a human. All inquiries may be captured via forms and then forwarded internally via E-mail for personal processing by service personnel. Accordingly, the system 10 processes the form or note from the customer to be routed into a queue for further processing. Some, but not total, automation may be implemented based on the type and subject of the consumer inquiry. The system 10 may also track the number and types of problems with specific products, as well as the responses to the customers and the outcomes of the inquiries.

The system 10 also performs Account History functions, in which the system 10 has the ability to capture order history from registered members, and to display the information to the consumer. The ability of consumers to see their history of transactions with the TEA system 10 adds to a sense of stability and trust of the brand. The system 10 uses existing TRANSACT functionality to keep an order history of individual registered members.

In addition, the system 10 provides a Lost Password function, to allow a consumer to change his/her password on-line or via the call center, in order to reset a forgotten password, or to merely change a password in a secure and verified manner.

The system 10 provides a TEA system information function to display, except for password information, other relevant static information, such as terms,

liability, phone numbers, contacts, etc. It is especially important that consumers have an easy way to find information about the TEA system 10. The information is presented in a clear manner and is relatively easily accessible to facilitate ease-of-use of the system 10 by the user.

The system 10 may optionally provide an Interactive Telephone Voice Response (IVR) function, using known IVR systems to allow the consumer to access order information via the telephone, so that consumers are not limited to on-line use of their computers to check order status. Consumers order from the TEA system 10 using a computer, but order status and other information may be supplemented with telephone functions through IVR. Such IVR functions utilize consumer voice recognition and order status and information read-back.

CONSUMER SERVICE CENTER FUNCTIONS

For consumer service center processing, the system 10 also performs a Registration function, to provide the ability for the Call Center to register consumers for ongoing membership with the TEA system 10. Registering users provides a large benefit to the TEA system 10 as it can build brand loyalty and allow for targeted campaigns. Allowing for registration via the call center provides the system 10 with another channel to register users using Open Market TRANSACT. This enables users to perform quick buying by relying on a pre-entered PIN or password, and so to perform one-click transactions. Users may also be offered options such as to automatically receive offers, to have user information automatically used for receiving such offers and promotional information, and to select and/or enter credit card information for default payment processing. The registration settings may facilitate and/or drive the use of order-taking templates for faster use and transactions by users.

The system 10 also implements a Check Order Status function, to permit a call center using a TEA system extranet site to check individual consumer orders, and to allow the consumer to check orders via the World Wide Web if there is a problem or the consumer is unable to access the TEA system website. This implementation is based on Open Market TRANSACT to provide the users with order status, such as the order being okay, declined, or cancelled, as well as to check where a shipment is.

The system 10 also implements a Cancel Order function to give the ability for the call center to cancel an order per a consumer's request. This function may be handled by the one-hour fulfillment delay, and might include the ability to cancel the order through an API with the fulfillment house.

Similarly, the system 10 provides a Change Order function to allow the call center to change various attributes of customer's order. All features that are available through the TEA system self-service are accessible via the service center. This function will be simplified by the one-hour fulfillment delay, and may include the ability to modify the order through and API with the fulfillment house, such as changes in quantity, address, size, features, payment method, and shipping date.

Similarly, the system 10 provides Returns/Exchanges functions to the call center to authorize returns and exchanges. The customer has the ability to return/exchange products and services. This feature offers an enhancement over the self-service site since the service center is able to authorize changes and provide additional information to the consumer. The returns/exchanges function is handled by the inclusion of a return label on all packaging, allowing a customer to simply place the label on the package and place the product back in the mail. No pre-authorization may required, but certain exclusions may apply such as product-driven restrictions including perishables, and returns may include money-back guarantees as well as identical or equivalent replacements.

The system 10 also includes a Consumer Inquiries function to allow a user to communicate with the TEA system 10 and to forward such inquiries to human personnel for handling. Customer service has a major effect on how customers view the experience of interacting with the TEA system 10. Good customer service can create extremely loyal customers while bad customer service can cause customers to never use the service again. The Consumer Inquiries function includes a mechanism for E-mailing issues and matters such as complaints, as well as an issues-tracking mechanism, which may also be included in the E-mail system.

The system 10 also provides a Telephone Order Completion function to give the ability to a customer to call into the call center and provide the final order information, such as credit card info that the customer is not comfortable sending over the Internet. Some customers may still be unwilling to finalize credit card transactions over the Internet. By giving these late adopters the ability to finalize the transaction over the telephone, the number of potential customers may be increased. The call completion information may be stored in a front-end order database, which may employ known third-party software and/or hardware.

With other call center functions, the system 10 provides a Change Password function to give a consumer the ability to call the call center to change and/or look-up a forgotten password. The Change Password feature may be available through the service center.

SYSTEM EXTRANET FUNCTIONS

Through an extranet, the system 10 supports a Campaign Reporting function, which may be a password-protected representation of campaign information over the extranet. Partners as well as suppliers, venues, and agents have the ability to access campaign information so they can evaluate the success of the campaign. Campaign statistics may be gathered and calculated relative to the numbers of impressions,

click-throughs, and transactions tallied by product, by creative characteristics or source, by day, by time period, by webpage, by transaction values, by demographics, etc. The statistics may also measure fulfillment performance, quality of information, and other marketing and shipping statistics.

Such campaign reports may be downloadable and/or exportable, and so the system 10 has the ability to support franchise partners by allowing them oversight through permissible and competitor-secure views of the performance and use of the system 10.

The system 10 also performs Statement of Account functions to give the ability of supply chain partners to see their current account status as well as some trends that allow them to forecast in the very near term. For example, account history with a product-by-product breakdown as well as over different time periods may be stored and reported. The income pipeline and any charge-backs may be tracked. Such reports may be downloadable, extractable for export, and password protected, for example, on multiple levels of security such as company over company/subsidiary or inter-company security.

The system 10 also performs a Tracking Queries function to provide the ability to supply chain partners to check product status within the delivery cycle, to give supply chain partners the ability to see exactly where the product is in the fulfillment lifecycle. The system 10 may utilize and/or incorporate a lead wholesaler and therefore the need to communicate product status through multiple supply chain partners may not be required. Details for each component of a supply chain may be monitored, and alarms or status messages may be generated to proactively address problems in the supply chain prior to dates for shipping of products.

The system 10 also implements a Stock Queries function, such that time and effort is saved for the TEA system employees if suppliers make their own adjustments on stock levels. Forecasts, histories, and income rates such as value-

added effects may be monitored and visually graphed to monitor and decide on the granting of more stock by suppliers in open-ended supply arrangement, as well as to monitor the changing stock levels of fulfillers and other stock management functions, such as tracking and changing of product availability levels.

SALES MANAGEMENT FUNCTIONS

The system 10 also provides reporting functions and demo/prototyping functions to permit sales managers to generate reports and to demonstrate and test new features of the system.

SUPPLY CHAIN SETUP AND MAINTENANCE FUNCTIONS

The system 10 also includes a setup/maintain partner function to perform the basic operations of setup and maintenance of partner information in addition to and beyond the information that is stored for operation of the system. For example, the roles, contacts, names, and addresses of partners may be maintained to provide the ability to store and track basic information on partners.

Similarly, the system 10 includes a vendor set-up and maintenance function to perform the setup and maintenance of supplier information and parameters of business relationship, including supplier information, bank and payment details, supplier ID numbers, contacts, location, addressees, product set, and supply chain partners.

In addition, the system 10 includes a vendor agreement set-up and maintain function to perform the setup and maintenance of specific supplier agreements encompassing one or more campaigns, including information on bank and payment details, contacts, supply chain information, configuration selection, campaign links, products, locations, addresses, timing of payments, and expiration of agreements.

The system 10 also includes a fulfillment set-up and maintenance function to facilitate the creation and maintenance of fulfillment partner information, such as name, contact information, address, bank and payment details, SLAs of products, suppliers, shippers, geographic regions, and technical communication details.

Similarly, the system 10 performs a Fulfillment Agreement Maintenance function to perform the setup and maintenance of parameters for working with a fulfiller over a given time period and/or campaign, such as SLA turnaround time shrinkage, and quality such as breakage information. Geographic restrictions and pricing may be specified, as well as packing information, such as company labeling, invoices, and return slips. Technical communication details and return procedures and parameters may be stored and maintained.

The system 10 also performs Shipper Set Up and Maintenance functions, to perform the set up and maintenance of shipper relationship information, such as entry and maintenance of shipping tables, bank account and payment information, payment terms, SLA information, addresses, contact information, geographic scope, timing, technical communication details, and return procedures and parameters.

The system 10 includes Franchise grouping functions for the setup and maintenance of Franchise/Franchisee groups of Vendors/Venues to simplify the job of management, to give better reports, etc.

VENUE SETUP AND MAINTENANCE FUNCTIONS

The system 10 includes a Venue set-up and maintenance function to perform the set-up and maintenance of venue specific information including and above the information that is stored in the selected packages, such as campaign specific-buying information, URLs, ad types, ad restrictions, names, contacts, bank accounts or payment information, target CPM, and categorization of the venues.

Further, the system includes a Venue Agreements Maintenance function to perform the setup and maintenance of umbrella understandings and agreements under which campaigns can be booked. The ability to monitor key data around venue agreements, such as the number of impressions, timeframe, location of where in a website or webpage an ad is served, the effective CPM, and timeslots are specified, in order for the TEA system 10 to function as a business.

The system 10 also includes Venue Media Buying functions to provide the ability to "purchase" or allot within the system 10 chunks or groups of media against agreements. For such allotments, volumes of impressions, specifications of websites, timeframes, transfer of pre-purchased media, and identification of brokers involved, if any, are employed.

CONTENT MANAGEMENT FUNCTIONS

The system 10 includes an ad style template management function to facilitate the creation and maintenance of ad templates, such as sizing, color, and other attributes, as well as to create, update, and delete ads, to store links of such ads, and to store metadata about the ads.

Similarly, the system 10 may provide a Construct Ad function to pull together ad and order information from templates with graphics to create ads through and for transactions. The construction of ads includes basic graphics and text set up in components that may be pulled together in completed ads, as well as multimedia support. Variable components in a fixed ad model, such as the price of a product, may be specified, and the ads may be constructed from multimedia, multiple form factors, links to digital offers, and links to other websites.

The system 10 also provides an order form template function for accessing and maintaining a library of templates which have been pre-built.

The system 10 includes a Product Information function to permit the creation and maintenance of product specific information to be displayed on ads using AdManager functionality. Thus, ad copy, ad graphics, and ad multimedia are interwoven as TEAs.

The system 10 also performs a Workflow function for routing raw templates through final ads and through steps in the creative process and campaign management. An automated workflow system improves speed, efficiency, and reliability of the content creation process. Accordingly, hard or soft blocks between steps in the creative process and hard or soft approvals between blocks may be supported, for example, to require the ad or campaign administrator to either sign off for an ad which is stored in memory, or merely actuate an approval command.

The system 10 may also include a Version Control function to perform the attachment of version information to ads, allowing for auditability, and for the security of having standard procedures in place that give a sense of comfort over the development and use of ads. The version control may require that, once a version of an ad is set, it cannot be changed, and the version information may include date sensitivity, ad author/creator information, and approval of the particular version of the ad.

CAMPAIGN MANAGEMENT FUNCTIONS

The system 10 also provides a Pricing Strategy function to perform the setup and maintenance of flat pricing and the set up and maintenance of dynamic price optimization parameters, to be able to set up pricing for products. Dynamic price optimization improves the conversion rate of impressions into transactions, thereby increasing revenue and income. A known product called Macromedia Generator may be used for dynamic pricing. The information needed to make a pricing decision must be available real-time in terms of on-line reports. Thus, flat or

dynamic pricing or life-cycle pricing may be supported, as well as system-specified or supplier-specified changes in prices. Other information identifying perishable goods, available quantities of products, and responses to offers may tracked, and prices may be adjusted based on the number or quality of responses to offers.

The system 10 may also support Partner Splits Set-up and Maintenance functions for the setup and maintenance of the rules by which revenue is distributed to the TEA system 10/partners after a transaction, for example, using flat rates, percentage rates, hurdles or sales targets, or scaling of splits.

The system 10 also supports a Venues for Ads function, performed by Accipiter to allow for the selection and de-selection of venues where ads can be served. Logic and rules may be implemented to determine where or not where ads are to be displayed, as well as to specify specific venues only where a particular ad may be displayed, and so venue of ads is controlled by categories of ads or venues, or by types or specified websites.

The system 10 also supports functions for the set-up of cross-selling strategies, for identifying product sets for cross/up-sell and setting up triggers based on user information or other information. Setting up product sets for cross-selling allows for quick presentation of related products, increasing the chance of higher revenue per transaction. Promotional cross-selling pricing increases the chance of conversion by offering a price incentive for multiple product purchases. The system 10 manages cross-selling, such as what products to link with what, etc. Generally consumers are attracted to the "quick and easy" transaction, but are also amenable to cross-selling. Accordingly, the system 10 supports product linkage, such as always linking two or more products together, as well as linking multiple products specified on a list or table. The neural net functions may also be used to learn preferable linkages between two or more products, and so to link corresponding ads

automatically. In addition, the system 10 may track and enforce supply chain restrictions, as well as promotional cross-sale pricing.

The system 10 also implements a Selection of Ads/Rotation Strategy function using the Accipiter AdManager component for the selection and de-selection of ads that can be served, and the development of the strategy driving which ads are to be placed where and when.

The system 10 also performs an Effective CPM Tracking function for calculating the effective CPM rate and for analysis of the effective CPM versus a targeted CPM. The effective CPM may be calculated by campaign, by product, by venue, and/or by supplier using the number of impressions and/or the number of clicks or actuations of ads, which may be implemented by the known Matchlogic software.

The system 10 also performs a campaign set-up and maintenance function for the creation and maintenance of campaigns using Accipiter, for example, to specify the name, product, timing, and supply chain partners of a campaign.

PRODUCT MANAGEMENT FUNCTIONS

The system 10 also performs a set-up and maintain product function to specify product information necessary to manage products with supply chain partners. This involves the storage and management of several variables, and customization in order to act on their changing values properly. Known inventory systems may be used for maintaining the informational requirements of product, such as supplier information, pricing, stock level maximums, current stock amounts, trigger stock levels, product name, product samples, product information, shipping parameters, metadata, identified product managers, supplier contacts, fulfillment contacts, shipper information, and lead time to restock products.

The system also includes a setup and maintain product group function to create and update product information based on supplier price, with such information including product names, group names, group information, group managers, and metadata about products and groups of products.

The system 10 further includes a Dynamic Supplier Comparison function to provide the ability in a multi-supplier model to rate suppliers and choose the best supplier to provide a product. In a multi-supplier model, this provides the value of an automatic comparison and selection of the proper product by supplier.

SUPPLY CHAIN MANAGEMENT FUNCTIONS

The system 10 also implements a Low Inventory Alert function, to determine once inventory falls to or below a designated level, and to generate a warning message sent from the TEA system 10 to supplier/fulfiller or to an internal supplier manager, which helps to automate the TEA system 10 operations. In addition, EDI re-ordering may be performed.

The system 10 also implements a Request More Inventory function to facilitate increases in a current allocated inventory, for example, by sending an EDI message to reorder the inventory in response to any changes in inventory level. In addition, the system 10 may allow a supplier or fulfiller to log onto the extranet website of the system 10 to change the inventory levels.

The system 10 also includes a setup and maintain supply chain function, which connects together possible supply chains for selection to be used in campaigns. In a high volume multi-supplier environment, this functionality significantly eases operational burden by associating entities with roles in the supply chain.

FINANCIAL TRACKING FUNCTIONS

The system 10 includes a Regulatory Reporting function for tracking accounting information in order to produce financial accounts including taxes, accruals, pre-payments, and cost classifications.

The system 10 also includes a Statement of Accounts function for tracking accounting information in order to produce financial accounts by supply chain entity and venue, including reports indicating revenue with details, costs with details, total transaction details, forecasts, bad debts, percentages paid or generated, and status of payments paid by a specific time.

MANAGEMENT REPORTING AND INFORMATION FUNCTIONS

The system 10 includes a shipper management information (MI) function to provide information to the TEA system 10 to facilitate shipper management, and so the ability to provide information on hand that shows the quality and volumes of shipper interactions as part of the supply chain adds large value to the shipper management process. Returns, fees analysis, timing, quantities, and use of a shipper's tracking system for complaints may be processed and reported.

Similarly, the system 10 provides a supplier MI function to provide information to the TEA system 10 to facilitate supplier management and so to have information on hand that shows the quality and volumes of supplier interactions as part of the supply chain, which adds large value to the supplier management process. Returns, cost analysis, stock levels, delivery time to fulfillment, complaints, and performance may then be processed and reported.

In addition, the system 10 may provide a venue MI function to provide information to the TEA system 10 to facilitate venue management and so to have information on hand that shows effective CPM, volumes and number of impressions served, site performance click-throughs, transactions, and other usage analysis, as

well as consumer profiling, which adds significant value to the venue management and sales process.

Similarly, the system 10 provides a product MI function to provide information to the TEA system 10 to facilitate management of products, and thus to have information on hand that shows pricing, stock levels, effective CPM, and performance by product, including graphical reporting such as demand curve generation, which is an invaluable tool for the TEA system product managers.

The system 10 also provides a fulfillment MI function to provide information to the TEA system 10 to facilitate fulfillment management, and thus to have information on hand that shows the quality and volumes of fulfillment interactions as part of the supply chain, which adds large value to the fulfillment management process. Fees analysis, timing, complaints, and returns may be monitored and reported.

The system 10 may also provide system MI functions to provide information to the TEA system 10 to facilitate the TEA system management aggregate information, and so to monitor the "health of the business" such as overall CPM and performance of sub-systems and components of the system 10 such as downtime, average ad service time, etc. Volumes of click-throughs, transactions, product, number of suppliers, vendors, and venues may be monitored and reported.

The system 10 may also provide consumer MI functions to facilitate consumer management by providing an aggregation of information that assists in the targeting of ads and feedback on the transaction experience. Information may be monitored and reported, such as membership information, frequency of visits, preferences in categories, repeat business, tendency to cross-buy, geographic profiles, and usage such as click-throughs, transactions, and rain checks.

The system 10 also performs a Time Period function to provide information to assess seasonal and timing impact to the TEA system 10. Time Period MI

aggregates transaction experience to give insight as to conversion rates during times of day/month etc. which helps in the improvement of the targeting of ads. The assess information may include time of day, date/month, holidays, weekends versus weekday activities, and work versus non-work hours, including time zone issues.

The system 10 may also provide sales MI functions to generate and report information to the TEA system 10 to facilitate sales management "aggregate information" for tracking and evaluating the effectiveness of sales activities, such as by the number of calls, amount of collateral given out, number of hits on a website, and number of visits.

In addition, the system 10 has a geography function to manage information involving the geographical spread of the TEA system 10 for evaluating the TEA system performance across geographical areas according to country, region, and performance of ads by region.

ALARM SYSTEMS FUNCTIONS

The system 10 includes Alarm Systems functions for providing the ability to detect and suspend abnormal activity, and notify relevant parties, to monitor and detect abnormal activity. For example, an unusually high order rate may indicate a false price, which could put the company at financial risk. An alarm system is used which aborts a banner ad in such alarm circumstances. It is essential to maintaining a strong, service-oriented brand that the TEA system 10 never presents an offer that cannot be fulfilled. Accordingly, the system 10 provides rules-based monitoring of ad activity, and suspension of ad serving for a particular product, as well as transaction blocking and notification to consumers. Notifications of abnormality and subsequent blocking are provided to appropriate partners and to operations/product managers, for example, by E-mail.

SYSTEM FUNCTIONS

The system 10 also includes an auditability function to track by whom, what and when changes are made in the system 10, including complying with legal requirements for storing data such as carbon copy (CC) transactions, as well as storing transaction details for customer audits.

The system 10 also includes Security functions for maintaining a secure environment protecting the systems and the data, such as defenses against unauthorized changes to data and the system 10, to control access for secure connections for transactions, data encryption of transactions and in databases, and maintenance of on-line and off-line user IDs and authentication/authorization mechanisms.

The system 10 also provides performance functions for establishing acceptable time levels for serving and transaction processing, such as ad targeting and serving to manage access burdens on webpages and websites, as well as providing sufficient transaction performance to avoid discouraging customers from completing transactions.

The system 10 also provides a scalability function to increase scope of operations to levels set in business requirement documents, such as specifications for volume, digital media including overhead and bandwidth, and mirror sites.

The system 10 also operates a high availability function to engage in operations substantially at 100 % 24/7 availability, relative to cost trade-offs.

The system 10 provides Disaster Recovery functions including contingency considerations for unforeseen events, such as fire, flood, disk crashes, etc., to implement operations plans and hot/active stand-by machines or systems.

The system 10 also includes a Learning Systems function to provide continued refinement-of-approach enabled by systems and components, such as the neural net usage and the rule-set usage.

INTERNATIONALIZATION FUNCTIONS

The system 10 also performs a Shipping Charges function to calculate charges based on shipping destination and fulfillment location. The ability to calculate for multiple shippers and/or multiple shipping methods adds an element of choice that is attractive to many potential customers. Flat rate charges, dynamic pricing calculations, multiple shipping-type options, multiple shippers and types of shipping, query fulfillment for shipping and cost in real-time, and/or the use of real-time information, for example, to perform real-time comparison for determining best prices, are performed using Open Market's TRANSACT.

The system 10 also includes an address function to support differing address formats. To ensure timely shipping, the system must capture accurate addresses including all relevant fields, including the handling of varying fields by country.

The system 10 also include a tax calculation function to provide the ability to calculate appropriate tax rates according to shipping destination and/or fulfillment location. The tax calculation function is handled by TRANSACT within the U.S. and by other known systems for internationalization of taxes.

The system 10 also includes a product differences function to serve the appropriate products in the appropriate locations. Providing products that are appropriate to the geographic location of the consumer, in terms of cultural as well as usability issues, reinforces the TEA system 10 as a service-oriented, customer-focused brand. AdManager is capable of identifying the visitors' ISP and using an ISP lookup table to determine geographic origin of the customer and to identify different international and local standards of the customers such voltage and wattage requirements of appliances, date/time/calendar formats, and controversial products to avoid marketing fiascoes.

The system 10 also performs a language function to support multiple languages on-line and off-line, for reinforcing the TEA system 10 as an international service-oriented, customer-focused brand. Sub-systems or sub-phases of the TEA system 10 may be created according to country and/or to language spoken, and so to provide on-line multi-language ads and transactions, on-line customer service, mirror sites, extranets, and the ability of customers to select a specific language for engaging the system 10 in transactions. Off-line support may be provided by the system 10 including a multi-lingual help desk, and packing slips and brochures in different languages.

The system 10 also includes an Operations Service Center function to establish "mirror" operation centers where appropriate, to provide all serviced countries with a consistent level of service.

The system 10 also includes Currency functions to allow a consumer to make purchases and vendors to make sales in appropriate currency, as described herein. Quoting in multi-currencies increases conversion rates significantly with customers who are resident in countries other than the US. These users are more likely to purchase on an impulse basis if they are not required to make a currency calculation in their head, or look up the currency conversion if they are not familiar with the exchange rate. The ability to tailor the banner price to country of origin gives a very high business benefit.

The system 10 also includes a Multiculturalism function for performing a tailored approach according to cultural idiosyncrasies, such as colors, language, and preferred products, and so to reinforce the TEA system 10 as an international service-oriented, customer-focused brand.

NUMEROUS ADVANTAGES AND USES

The TEA system 10 controls the offers made to customers. Product stock and order fulfillment are completed by establishing relationships with one or more large wholesalers across a range of popular products, such as videos, books, and shrink-wrapped software. Ad space is obtained from several large websites in exchange for a share of any resulting revenue. The TEA system 10 controls the details of product offers made to customers from the short list of product options agreed with the wholesaler.

By working proactively, using the real-time information from day-to-day operations to amend and refocus product offers, marketing success may be built much more rapidly, and with less risk, than if reliance is made upon selling the outsourced service to individual vendors.

The TEA system 10 is proactive in agreeing with the wholesaler on the products to offer, and in amending the product offers based on operational experience and a mix over time. The TEA system 10 is also capable of an outsourced processing role, to act as an outsourced service provider to vendors, advertising agency intermediaries and websites. The vendor may control the offers within the context of the TEA system brand values, with the TEA system 10 providing transaction processing and information services in exchange for a share of revenue. Ad space may normally be obtained by vendors or intermediaries.

Using the system 10, there are further opportunities to establish collaboration partnerships with other companies to help promotion and sales of the TEA system services. The types of company which may be approached include:

significant mail order catalog companies;

on-line ad agencies and networks; and

software service providers such as Computacenter in the UK, who may offer the "buy button" service of the system 10 to their customer base.

The services of the system 10 are targeting a market of active interest to potential customers, and the infrastructure can support many other potential services, generating additional revenue for limited additional investment in the future.

Using the system 10, an integrated service is provided which enables the consumer to interact within the confines of an advertisement window to complete a purchase, rather than just obtain information about a product.

Using the system 10, the website owner gains additional advertising revenue, while increasing the retention of customers on his/her website, unlike in the prior art in which on-line advertising forces customers to exit the venue site and "hot link" to the vendors own site in order to make a purchase.

In the system 10, the vendor gains additional sales, through using advertising spend to generate direct sales revenue, using an outsourced service which requires very limited effort on the part of the vendor. The customer gains immediate access to product offers without having to go and find them on different webpages, and the TEA system 10 thus generates revenue.

The service is particularly attractive for:

impulse purchases: gifts, items sold at a discount to normal high street prices, offers set in a relevant context; for example, a CD for sale on a music site;

perishable items such as tickets, where the owner needs to sell goods by a certain date, including the desire to reduce price as deadlines approach; and

items in which there is limited stock availability, as sales are only generated by putting an offer in front of a consumer.

The system 10 utilizes the data capabilities and the global extent of the Internet as a preferred communications medium, but the system 10 may also be used in other interactive digital media. In particular, advertising on digital interactive TV

services, which are likely to attract significant mass market audiences over the next few years, provide a very attractive marketplace for the system 10.

Ad serving software is the software that enables adverts to be served across a range of sites, with results monitored in terms of customer response or click-throughs. High volume ad serving is a specialized market, since the big IT companies have generally chosen to buy such specialized software in, rather than build their own; for example, MICROSOFT uses Accipiter software across its websites.

There are a wide range of companies offering transaction software, including many of the big IT companies such as IBM and MICROSOFT, as well as smaller specialists such as Open Market. There are also a wide number of companies offering outsourced transaction processing services.

The TEA system 10 is ideally placed to provide the disclosed service and to meet the market demand from commercial websites, distributors and vendors who are actively seeking ways to exploit the revenue potential offered by on-line transactions, and using a payment processing system having payments capability, in particular, for the ability to handle multi-currency acquisition.

TEA represents an opportunity to establish a significant technological and operational infrastructure in one of the pivotal E-commerce marketplaces, to ensure the technological and international linkages to compete in the future of electronic commerce and international markets, since the TEA system 10 acts as both a distribution intermediary and international payments provider. With TEA, the TEA system 10 operates as a product integrator, bringing together a selection of services on behalf of a buyer and building on existing competencies.

In addition, the system 10 and its infrastructure can support many other potential applications, generating incremental revenue from limited additional

investment. Two examples are market research and other consumer response services.

The system 10 serves adverts; take orders including receiving details of goods, customer, payment, etc; manages virtual stock levels, i.e. to be capable of selling up to the available number of items and no more; managing the processing of orders and passing details through to the vendor or distributor, or their agent, for fulfillment, as well as a bank to process payments; handling inquiries, either on an automated basis through a website or through a customer service agent; and monitoring the performance of campaigns.

The TEA system 10 offers a fully outsourced service. Using the service, a vendor trades on-line with almost no incremental investment. The TEA system 10 can also compete directly with competitors by offering a menu selection from the full service offering if some vendors prefer to provide some elements themselves.

In addition, during operation, the TEA system 10 generates additional assets: a transaction database, a customer database, and branding.

The transaction database is a significant driver of revenue in facilitating better targeting through knowledge of: customer buying patterns; identification of which products maximize revenue by site and by type of customer; identification of what makes advertising effective; and the impact of price changes on demand. This knowledge is applied dynamically, with extensive automation, to maximize value.

As orders are taken, a customer database is created, which may be done proactively by inviting customers to register with the TEA system 10 by entering their name, address and credit card details for orders. Repeat purchasers may then only have to enter a PIN or password to complete a transaction. Loyalty schemes may then be used with registered customers, and product offers can be E-mailed to customers, reducing the reliance on advertising over time.

Over time, branding of the TEA system 10 is achieved by on-going exposure to consumers and by association with established brand names of vendors and branded goods on the many adverts served. The branding represents good value product offers, convenient services, and secure and reliable transactions.

The TEA system 10, through the Internet and/or other communication media, is a global business system, with multiple channels of distribution. A first channel to market for the TEA system 10 reduces the reliance on vendors in the first instance. This first channel primarily focuses on selling services to major websites, thus building a market position rapidly, and gaining expertise and transaction knowledge. In the first channel, the TEA system 10 may use contracts with distributors for supply of popular product lines such as PC software, books, CDs, and flowers. The TEA system 10 may then market these products directly to customers through on-line advertisements delivered on targeted websites.

The TEA system 10 operates as an agent, enabling trade to take place between a distributor and end consumer, and contracts may be established between the consumer and the manufacturer/distributor, enabling the TEA system 10 to avoid primary liability for bad debts or faulty goods. The TEA system 10 may also pay both distributors and websites a percentage share of transaction value, ensuring that costs vary in proportion to revenue. With the TEA system 10 controlling the rate at which adverts are served, through direct deals for advertising space with websites, the transaction database may be built rapidly. The TEA system 10 may also experiment to identify which products sell most effectively on impulse, optimum pricing, advertising execution, etc.

A second channel to market includes providing the system 10 on an outsourced basis to vendors and websites. As well as providing an integrated service, requiring little from the vendor, learning from the transaction database enables the TEA system 10 to add value through advice on which products sell well,

on which websites, and to which customers. The vendors may themselves contract either directly or through an agency with the website, and through either TEA system introductions or the vendor's existing contacts to the payments provider and shipping/fulfillment services.

The vendor may also contract with the TEA system 10, which may charge fees to the vendors based on a percentage of transaction value, with a floor limit for small value items, to ensure revenue is in line with costs. There may be additional charges to the vendor for serving adverts, to ensure costs are covered. Premium service rates may also be charged for increased levels of advisory services such as price optimization advice.

This second channel to market enables the TEA system 10 to focus its efforts on the core transaction processing service, build volume quickly, obtain additional margin based revenue, and leverage the value in the transaction database.

Franchising may also be used with the system 10 through collaboration agreements negotiated and involving selling the TEA system 10 services to franchisee websites. Thus, the system 10 may provide an outsourced transaction enabled website service for small or medium sized businesses, as well as performing operating market research and other customer response services, retailing directly from the TEA system website, and operating other advertising network services, such as website networks, making it easier for vendors to acquire space. In addition, arbitrage services may be engaged through the system 10 to implement the block-buying of ad space from websites for use by the TEA system 10 or on-sale to vendors.

Additional opportunities outside the Internet include the expansion of the TEA system 10 into other digital interactive media such as digital TV, the use with advertising advisory services by extrapolating on-line results to off-line media, and

packaged expert services for new product development, since the system 10 is able to test market propositions with small quantities of stock.

The TEA system 10 may be thought of as providing a "click here to buy" service. An important component of this is an integrated easy, automatic payments service, which may use NatWest as a default or preferred payments provider for all channels to market.

The TEA system 10 outsources operations to leverage other companies experience in operating many of their existing businesses on this basis. There are a number of advantages: the cost base is largely variable with volume; rapid development of the TEA service is possible, and hence time to market is short; and there is a relatively low requirement for directly employed staff.

In keeping with the "virtual company" approach of the system 10, IT development may be outsourced using a "plug and play" philosophy to use standard software components, with systems integration to provide the overall integrated TEA service.

The revenue from the distributor model of the TEA system 10 comes from the margin the TEA system 10 makes on goods sold. Through introduction of significant volumes of orders, the TEA system 10 can use negotiated prices for supply at a significant discount, for example, about 40 %, to a typical sale price. This discount may be spread across: the venue, in return for ad space; the consumers, in the form of a discount, to encourage them to buy; and fulfillment, with shipping being an extra charge to the consumer.

The nature of the TEA system 10 permits experimentation with different pricing options, trading off margin for transaction volume, and so to optimize the revenue received.

CLAIMS

WHAT IS CLAIMED IS:

1. An electronic commerce (E-commerce) system (10) comprising:

an advertisement (ad) database (43) for storing a plurality of ads; and

a web server (26) operatively connected to a browser (12) of a user for receiving user characteristics data from the browser (12), for causing a display of a first ad having graphic user interface (GUI) responsiveness, from the ad database (43) corresponding to the user characteristics to provide targeted ad delivery, and for receiving user inputs to actuate the GUI-responsive ad to engage in and to complete an E-commerce transaction corresponding to the ad.

2. The E-commerce system (10) of claim 1, wherein the web server (26) includes:

means (34), responsive to the user characteristics, for dynamically targeting a the first ad corresponding to the user characteristics to be displayed to the user through the browser (12).

3. The E-commerce system (10) of claim 2, wherein the dynamic targeting means (34) includes:

a neural network (40), trained using a plurality of user characteristics of a plurality of registered users, including user buying histories and user profiles and interests, for selecting the corresponding first ad to be displayed to the user.

4. The E-commerce system (10) of claim 1, wherein the web server (26) displays the first ad on the browser (12) whenever the user is viewing a predetermined webpage associated with the first ad.

5. The E-commerce system (10) of claim 4, wherein the first ad provides E-commerce functionality associated with the content of the predetermined webpage regardless of the ability or inability of the predetermined webpage to offer such E-commerce functionality.

6. The E-commerce system (10) of claim 4, wherein the predetermined webpage is an on-line catalog; and

wherein the first ad is an entry displayed in the on-line catalog.

7. The E-commerce system (10) of claim 4, wherein the first ad corresponds to a first product, and the predetermined webpage corresponds to a second product, thereby co-branding the first and second products through the pairing of the first ad and the predetermined webpage.

8. The E-commerce system (10) of claim 1, wherein the web server includes:

means for receiving a currency selection from the user; and

means for engaging in and completing the E-commerce transaction using monetary values in the selected currency.

9. The E-commerce system (10) of claim 1, wherein the ad database (43) includes promotional offers, including a first offer associated with the first ad; and

wherein the web server (26) includes:

E-mail means for generating E-mail messages to an entity associated with the user to convey the first offer thereto.

10. The E-commerce system (10) of claim 9, wherein the entity associated with the user is the user.

11. The E-commerce system (10) of claim 9, wherein the entity associated with the user is a friend of the user specified by the user.

12. The E-commerce system (10) of claim 9, wherein the E-mail messages sent to the entity include information about the first offer for later review by the entity at the E-mail address to which the E-mail messages are sent.

13. The E-commerce system (10) of claim 1, wherein the browser (12) operates on a computing device executing application software implementing the browser (12) and connecting the browser (12) to the web server (26).

14. The E-commerce system (10) of claim 2, further comprising:

a supply-chain management modules operatively connected to the web server (26) for implementing and managing the E-commerce transactions executed through the first ad displayed on the browser (12).

15. The E-commerce system (10) of claim 14, wherein the supply-chain management module includes a database of revenue values associated with the ads stored in the database; and

wherein the dynamic targeting means (34) includes:

means, responsive to the revenue value database, for selecting the first ad from the ad database to be displayed to the user, wherein the first ad corresponds to user characteristics with maximum revenue realization potential.

16. The E-commerce system (10) of claim 14, wherein the supply-chain management module includes:

a real-time inventory management module mirroring supplier systems providing the product for the E-commerce transaction.

16. The E-commerce system (10) of claim 14, wherein the supply-chain management module includes:

a product source database; and

means for tracking the products purchased in the E-commerce transaction to follow product sourcing configurations for tiered supply pricing.

17. The E-commerce system (10) of claim 14, wherein the supply-chain management module includes:

a modular data structure for storing data corresponding to different E-commerce partners in a supply chain; and

means for revising the modular data structure to selectively replace E-commerce partners.

18. The E-commerce system (10) of claim 14, wherein the supply-chain management module includes:

means for dynamically generated pricing for offers provided through the first ad displayed to the user.

19. The E-commerce system (10) of claim 1, further comprising:

reporting means to track and report financial performance of the ads in the ad database involved in the E-commerce transaction.

20. The E-commerce system (10) of claim 19, wherein the reporting means includes:

an extranet available to partners of the E-commerce system (10).

21. The E-commerce system (10) of claim 1, further comprising:

a database of offers forming an outgoing portfolio, wherein the web server displays only ads corresponding to offers in the outgoing portfolio; and

means for dynamically, in real-time, evaluating the offers in the offer database, and for removing offers from the outgoing portfolio of offers failing to meet a predetermined criteria.

22. The E-commerce system (10) of claim 21, wherein the predetermined criteria includes a predetermined minimum threshold of profitability of offers.

23. The E-commerce system (10) of claim 21, wherein the predetermined criteria includes a threshold of available stock of products associated with offers.

24. The E-commerce system (10) of claim 1, further comprising:

a database of prices associated with products corresponding to the ads in the ad database; and

means for dynamically adjusting the pricing of products over time and for learning consumer pricing sensitivity to such price adjustments.

25. The E-commerce system (10) of claim 1, further comprising:

a payment sub-system for effecting payment of the completed E-commerce transaction.

26. The E-commerce system (10) of claim 25, wherein the payment sub-system includes:

means for dynamically calculating respectively monetary values accrued to each party in a supply chain associated with the completed E-commerce transaction.

27. The E-commerce system (10) of claim 25, wherein the monetary values may be in multiple currencies.

28. The E-commerce system (10) of claim 25, wherein the payment sub-system includes:

automated disbursement means for distributing the respective monetary values to each party in the supply chain.

29. The E-commerce system (10) of claim 27, wherein the payment sub-system includes:

automated disbursement means for collating monetary values on an individual transaction basis for each product associated with the completed E-commerce transaction, and for distributing the respective monetary values to each party in the supply chain on a timely basis for delivery to each party in the E-commerce transaction.

30. The E-commerce system (10) of claim 29, wherein the respective monetary values include micropayments.

31. The E-commerce system (10) of claim 25, wherein the payment sub-system includes:

revenue projection means for determining anticipated revenue of the E-commerce transaction on a real-time basis.

32. The E-commerce system (10) of claim 25, wherein the payment sub-system includes:

revenue determining means for determining accruals on settlement of the completed E-commerce transaction.

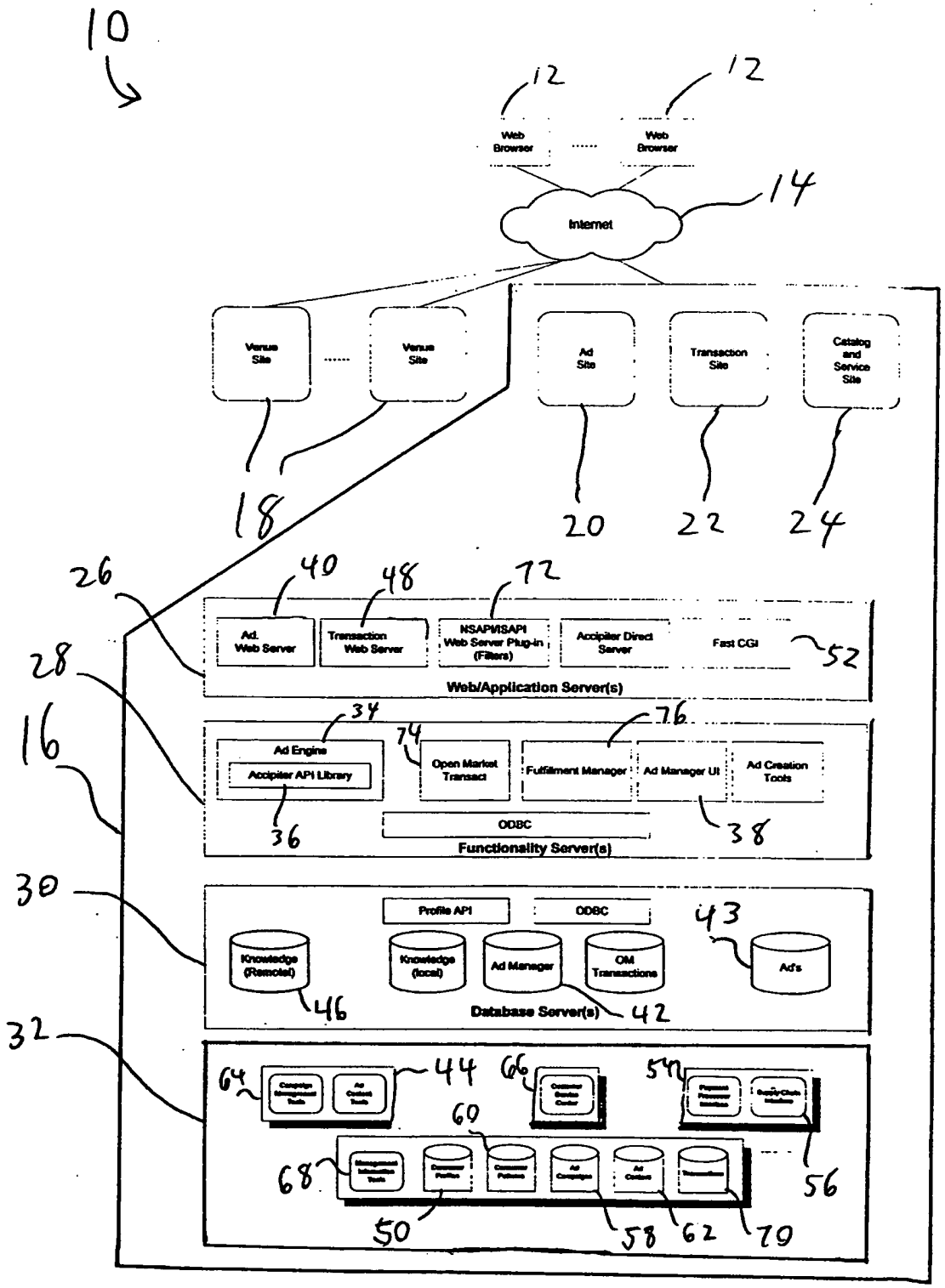

10
12
12
Web Browser
Web Browser
14
Internet
Venue Site
Venue Site
Ad Site
Transaction Site
Catalog and Service Site
18
20
22
24
26
40
48
72
Ad. Web Server
Transaction Web Server
NSAPI/ISAPI Web Server Plug-in (Filters)
Accipiter Direct Server
Fast CGI
52
Web/Application Server(s)
28
16
34
74
76
Ad Engine
Accipiter API Library
Open Market Transact
Fulfillment Manager
Ad Manager UI
Ad Creation Tools
36
ODBC
38
Functionality Server(s)
30
Profile API
ODBC
43
Knowledge (Remote)
Knowledge (local)
Ad Manager
OM Transactions
Ad's
46
Database Server(s)
42
32
64
44
66
54
60
68
56
50
58
62
70

FIG. 1

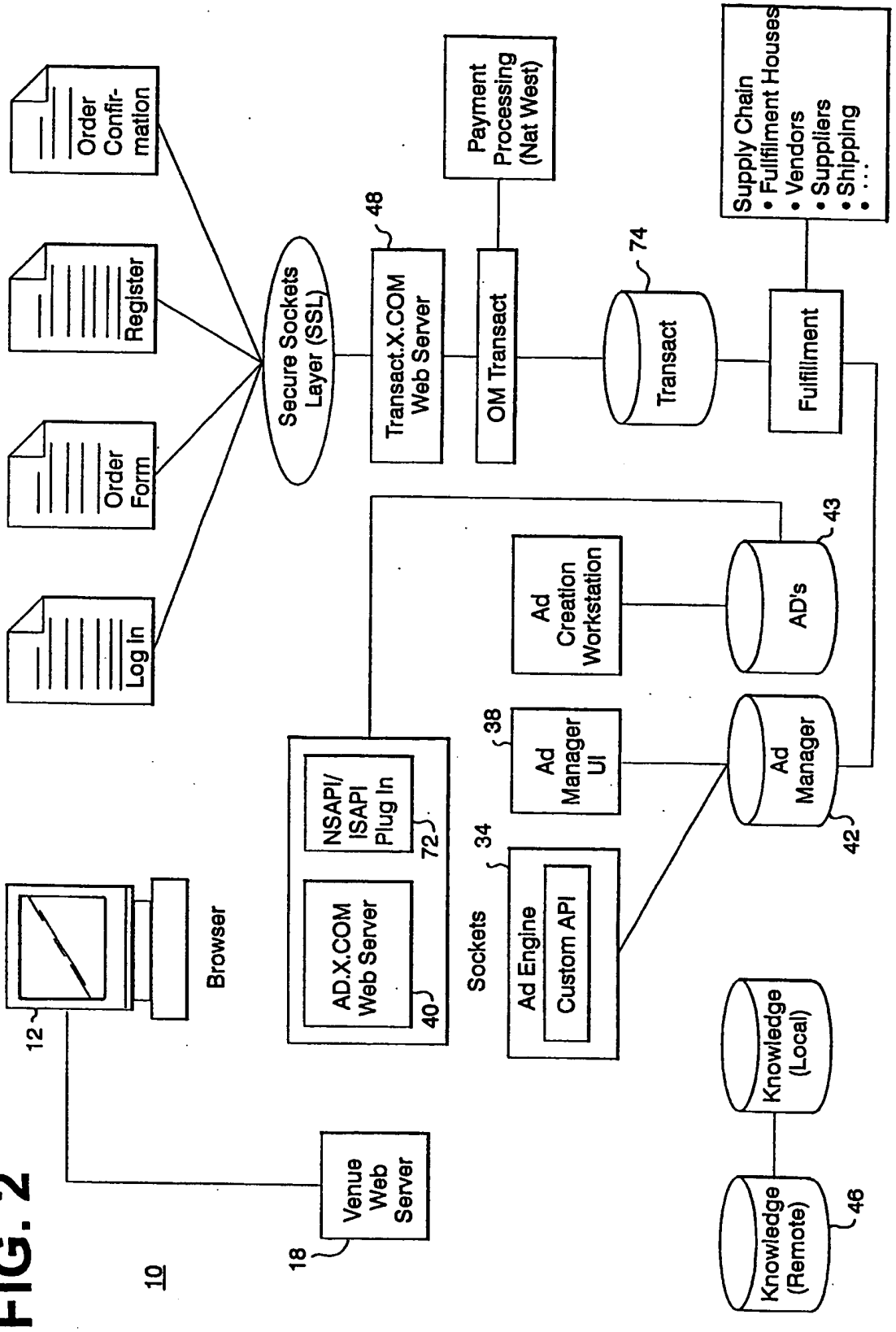

Order Confir-mation
Register
Order Form
Log In
Secure Sockets Layer (SSL)
48
Transact.X.COM Web Server
Payment Processing (Nat West)
OM Transact
74
Transact
Supply Chain
• Fullfilment Houses
• Vendors
• Suppliers
• Shipping
• ...
Fulfillment
43
AD's
Ad Creation Workstation
38
Ad Manager UI
Ad Manager
42
NSAPI/ ISAPI Plug In
72
AD.X.COM Web Server
40
34
Sockets
Ad Engine
Custom API
Browser
12
Venue Web Server
18
Knowledge (Local)
Knowledge (Remote)
46
10

FIG. 2

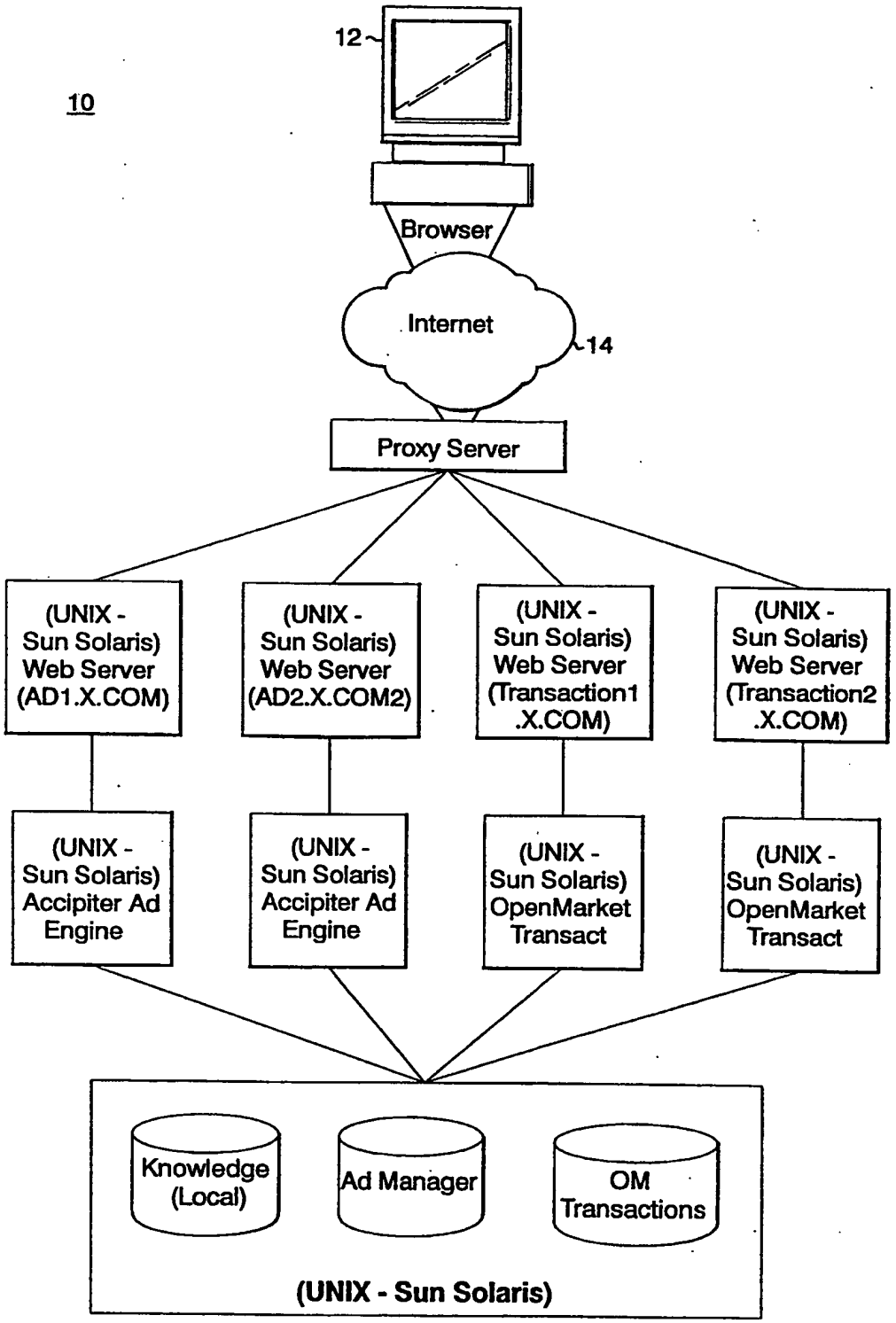

10
12
Browser
Internet
14
Proxy Server
(UNIX - Sun Solaris) Web Server (AD1.X.COM)
(UNIX - Sun Solaris) Web Server (AD2.X.COM2)
(UNIX - Sun Solaris) Web Server (Transaction1 .X.COM)
(UNIX - Sun Solaris) Web Server (Transaction2 .X.COM)
(UNIX - Sun Solaris) Accipiter Ad Engine
(UNIX - Sun Solaris) Accipiter Ad Engine
(UNIX - Sun Solaris) OpenMarket Transact
(UNIX - Sun Solaris) OpenMarket Transact
Knowledge (Local)
Ad Manager
OM Transactions
(UNIX - Sun Solaris)

FIG. 3

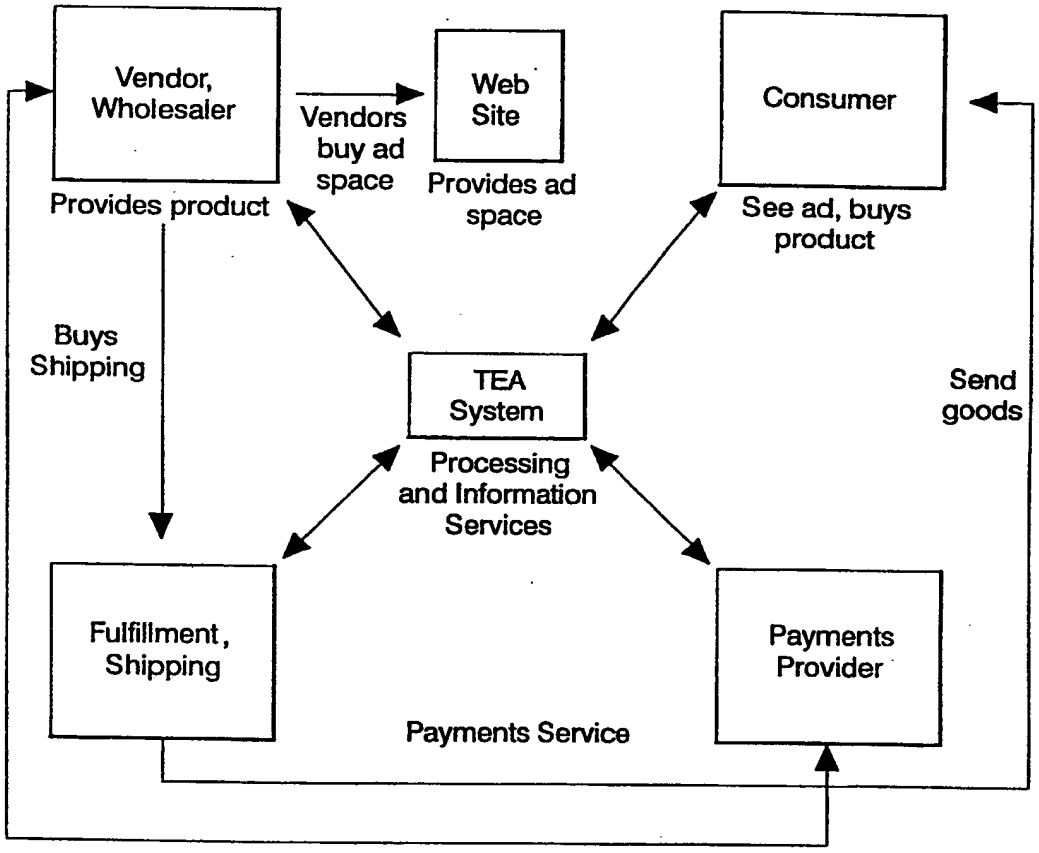
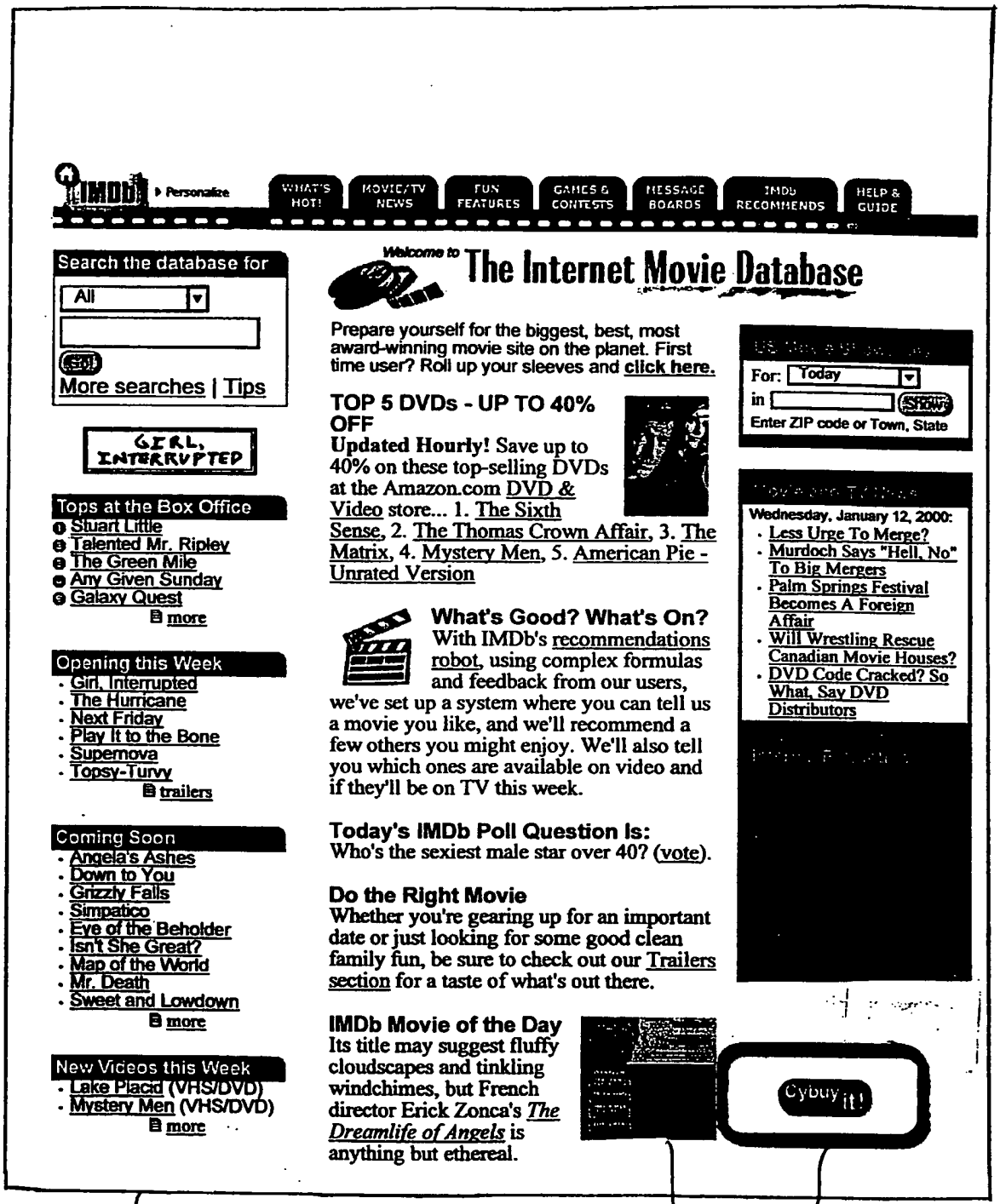
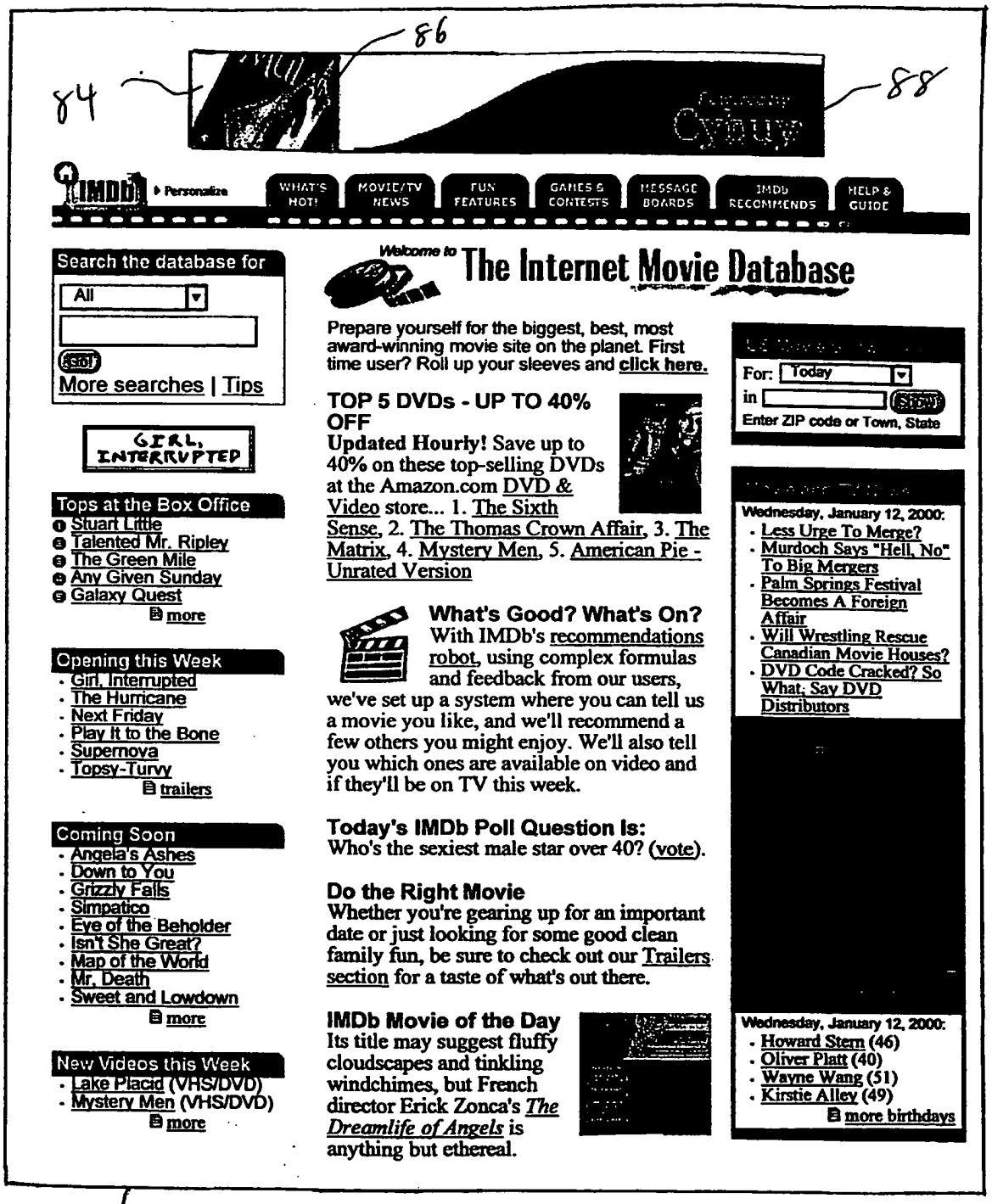

Vendor, Wholesaler
Vendors buy ad space
Web Site
Provides ad space
Consumer
Provides product
See ad, buys product
Buys Shipping
TEA System
Processing and Information Services
Send goods
Fulfillment, Shipping
Payments Provider
Payments Service

FIG. 4


IMDb
Personalize
WHAT'S HOT!
MOVIE/TV NEWS
FUN FEATURES
GAMES & CONTESTS
MESSAGE BOARDS
IMDb RECOMMENDS
HELP & GUIDE
Search the database for
All
Go!
More searches | Tips
GIRL, INTERRUPTED
Tops at the Box Office
1 Stuart Little
2 Talented Mr. Ripley
3 The Green Mile
4 Any Given Sunday
5 Galaxy Quest
more
Opening this Week
Girl, Interrupted
The Hurricane
Next Friday
Play It to the Bone
Supernova
Topsy-Turvy
trailers
Coming Soon
Angela's Ashes
Down to You
Grizzly Falls
Simpatico
Eye of the Beholder
Isn't She Great?
Map of the World
Mr. Death
Sweet and Lowdown
more
New Videos this Week
Lake Placid (VHS/DVD)
Mystery Men (VHS/DVD)
more
Welcome to The Internet Movie Database
Prepare yourself for the biggest, best, most award-winning movie site on the planet. First time user? Roll up your sleeves and click here.
TOP 5 DVDs - UP TO 40% OFF
Updated Hourly! Save up to 40% on these top-selling DVDs at the Amazon.com DVD & Video store... 1. The Sixth Sense, 2. The Thomas Crown Affair, 3. The Matrix, 4. Mystery Men, 5. American Pie - Unrated Version
What's Good? What's On?
With IMDb's recommendations robot, using complex formulas and feedback from our users, we've set up a system where you can tell us a movie you like, and we'll recommend a few others you might enjoy. We'll also tell you which ones are available on video and if they'll be on TV this week.
Today's IMDb Poll Question Is:
Who's the sexiest male star over 40? (vote).
Do the Right Movie
Whether you're gearing up for an important date or just looking for some good clean family fun, be sure to check out our Trailers section for a taste of what's out there.
IMDb Movie of the Day
Its title may suggest fluffy cloudscapes and tinkling windchimes, but French director Erick Zonca's The Dreamlife of Angels is anything but ethereal.
For: Today
in
Show
Enter ZIP code or Town, State
Wednesday, January 12, 2000:
Less Urge To Merge?
Murdoch Says "Hell, No" To Big Mergers
Palm Springs Festival Becomes A Foreign Affair
Will Wrestling Rescue Canadian Movie Houses?
DVD Code Cracked? So What, Say DVD Distributors
Cybuy it!

82 FIG. 5 80 78


86
84
88
Cyburg
IMDb
Personalize
WHAT'S HOT!
MOVIE/TV NEWS
FUN FEATURES
GAMES & CONTESTS
MESSAGE BOARDS
IMDb RECOMMENDS
HELP & GUIDE
Search the database for
All
Go!
More searches | Tips
GIRL, INTERRUPTED
Tops at the Box Office
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2 Talented Mr. Ripley
3 The Green Mile
4 Any Given Sunday
5 Galaxy Quest
more
Opening this Week
Girl, Interrupted
The Hurricane
Next Friday
Play It to the Bone
Supernova
Topsy-Turvy
trailers
Coming Soon
Angela's Ashes
Down to You
Grizzly Falls
Simpatico
Eye of the Beholder
Isn't She Great?
Map of the World
Mr. Death
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more
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more
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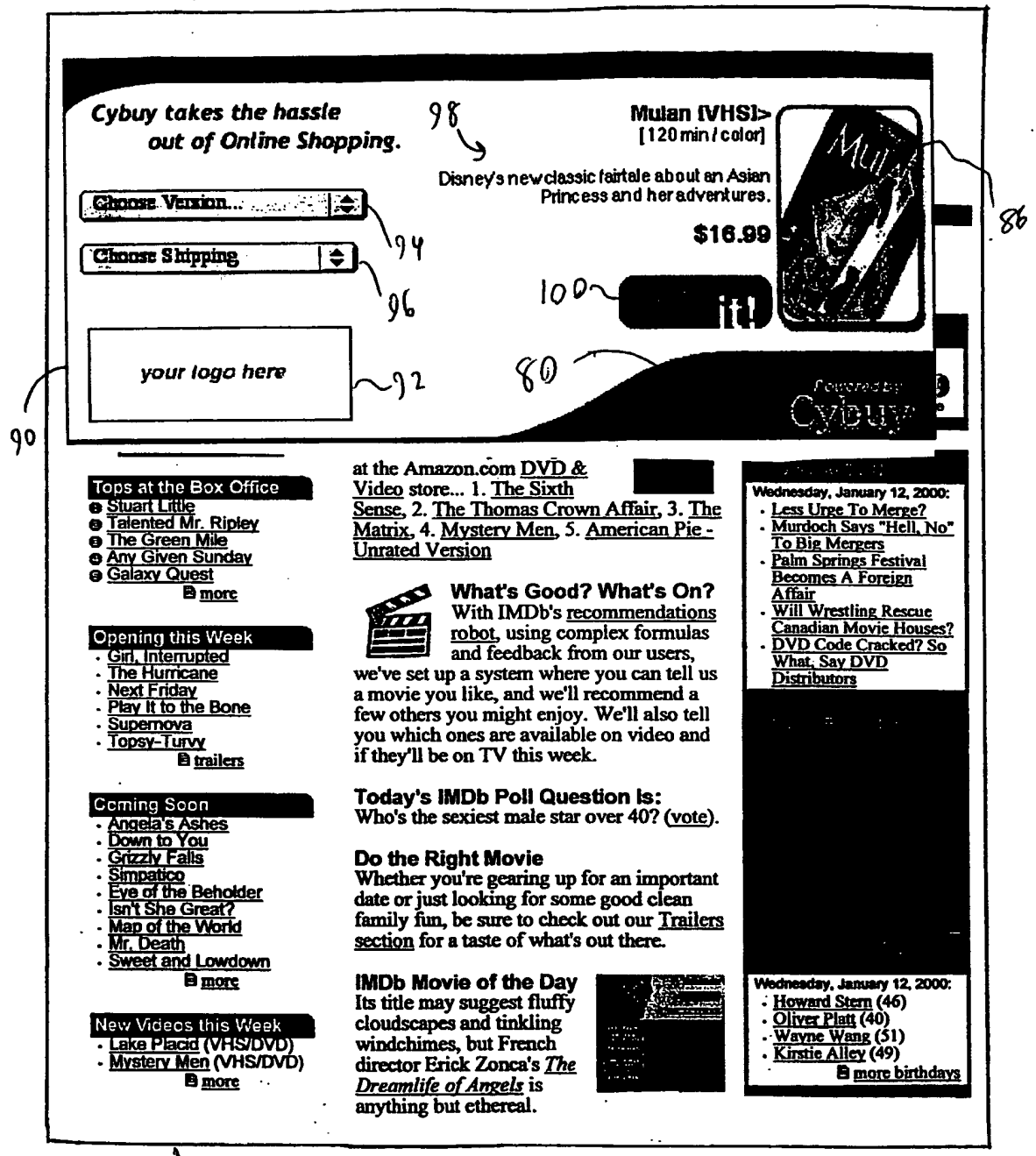
Its title may suggest fluffy cloudscapes and tinkling windchimes, but French director Erick Zonca's The Dreamlife of Angels is anything but ethereal.
For: Today
in
Show!
Enter ZIP code or Town, State
Wednesday, January 12, 2000:
Less Urge To Merge?
Murdoch Says "Hell, No" To Big Mergers
Palm Springs Festival Becomes A Foreign Affair
Will Wrestling Rescue Canadian Movie Houses?
DVD Code Cracked? So What, Say DVD Distributors
Wednesday, January 12, 2000:
Howard Stern (46)
Oliver Platt (40)
Wayne Wang (51)
Kirstie Alley (49)
more birthdays

82

FIG. 6


Cybuy takes the hassle out of Online Shopping.
98
Mulan [VHS]>
[120 min / color]
Disney's new classic fairtale about an Asian Princess and her adventures.
$16.99
Choose Version...
Choose Shipping
94
96
100
it!
86
your logo here
92
80
90
Powered by Cybuy
Tops at the Box Office
Stuart Little
Talented Mr. Ripley
The Green Mile
Any Given Sunday
Galaxy Quest
more
Opening this Week
Girl, Interrupted
The Hurricane
Next Friday
Play It to the Bone
Supernova
Topsy-Turvy
trailers
Coming Soon
Angela's Ashes
Down to You
Grizzly Falls
Simpatico
Eye of the Beholder
Isn't She Great?
Map of the World
Mr. Death
Sweet and Lowdown
more
New Videos this Week
Lake Placid (VHS/DVD)
Mystery Men (VHS/DVD)
more
at the Amazon.com DVD & Video store... 1. The Sixth Sense, 2. The Thomas Crown Affair, 3. The Matrix, 4. Mystery Men, 5. American Pie - Unrated Version
What's Good? What's On?
With IMDb's recommendations robot, using complex formulas and feedback from our users, we've set up a system where you can tell us a movie you like, and we'll recommend a few others you might enjoy. We'll also tell you which ones are available on video and if they'll be on TV this week.
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DVD Code Cracked? So What, Say DVD Distributors
Wednesday, January 12, 2000:
Howard Stern (46)
Oliver Platt (40)
Wayne Wang (51)
Kirstie Alley (49)
more birthdays
82

FIG. 7

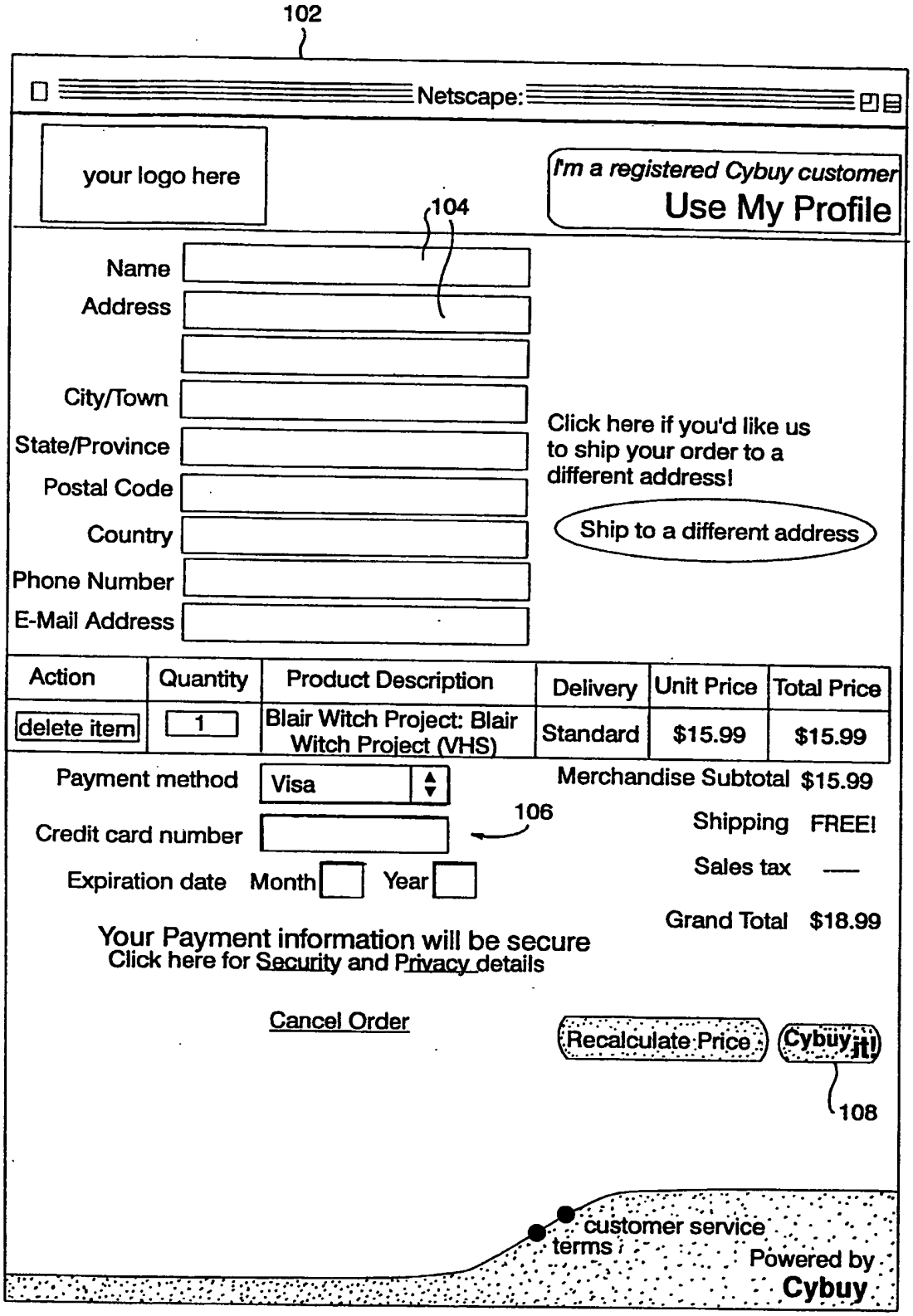
102
Netscape:
your logo here
I'm a registered Cybuy customer
Use My Profile
104
Name
Address
City/Town
State/Province
Postal Code
Country
Phone Number
E-Mail Address
Click here if you'd like us to ship your order to a different address!
Ship to a different address
Action
Quantity
Product Description
Delivery
Unit Price
Total Price
delete item
1
Blair Witch Project: Blair Witch Project (VHS)
Standard
$15.99
$15.99
Payment method
Visa
Credit card number
106
Expiration date
Month
Year
Merchandise Subtotal $15.99
Shipping FREE!
Sales tax —
Grand Total $18.99
Your Payment information will be secure
Click here for Security and Privacy details
Cancel Order
Recalculate Price
Cybuy it!
108
customer service
terms
Powered by
Cybuy

FIG. 8

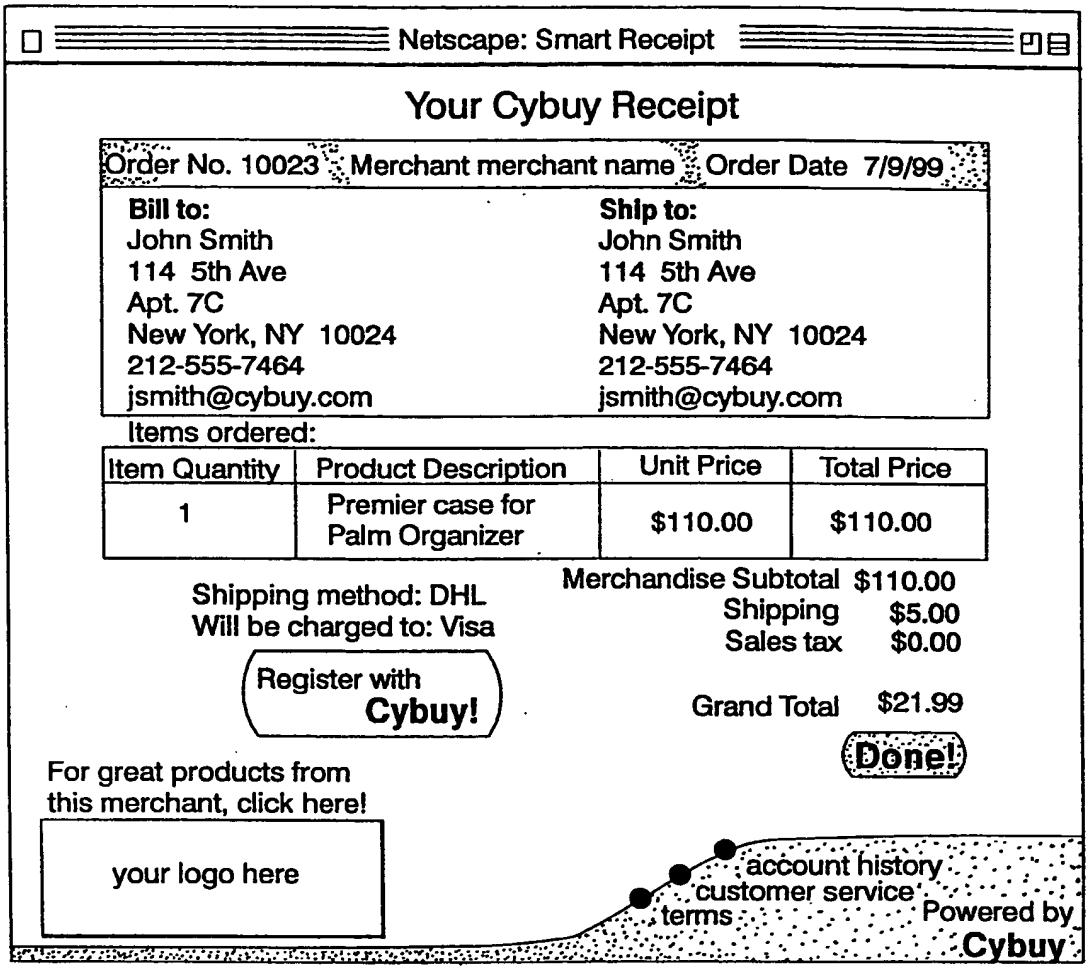
Netscape: Smart Receipt
Your Cybuy Receipt
Order No. 10023 Merchant merchant name Order Date 7/9/99
Bill to:
John Smith
114 5th Ave
Apt. 7C
New York, NY 10024
212-555-7464
jsmith@cybuy.com
Ship to:
John Smith
114 5th Ave
Apt. 7C
New York, NY 10024
212-555-7464
jsmith@cybuy.com
Items ordered:
Item Quantity
Product Description
Unit Price
Total Price
1
Premier case for Palm Organizer
$110.00
$110.00
Shipping method: DHL
Will be charged to: Visa
Merchandise Subtotal $110.00
Shipping $5.00
Sales tax $0.00
Grand Total $21.99
Register with Cybuy!
Done!
For great products from this merchant, click here!
your logo here
account history
customer service
terms
Powered by Cybuy

FIG. 9

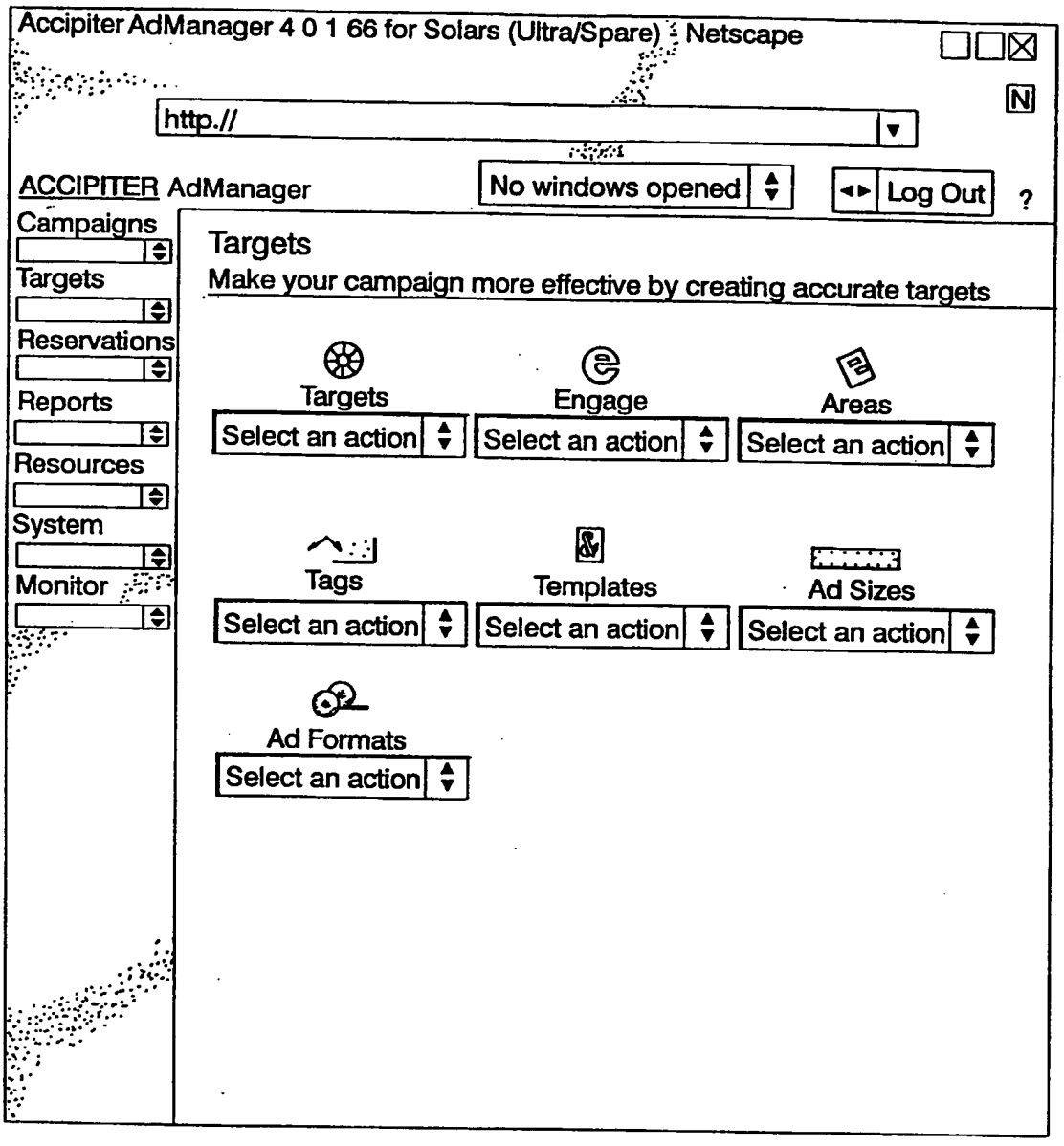
Accipiter AdManager 4 0 1 66 for Solars (Ultra/Spare) : Netscape
http.//
ACCIPITER AdManager
No windows opened
Log Out
?
Campaigns
Targets
Reservations
Reports
Resources
System
Monitor
Targets
Make your campaign more effective by creating accurate targets
Targets
Select an action
Engage
Select an action
Areas
Select an action
Tags
Select an action
Templates
Select an action
Ad Sizes
Select an action
Ad Formats
Select an action

FIG. 10

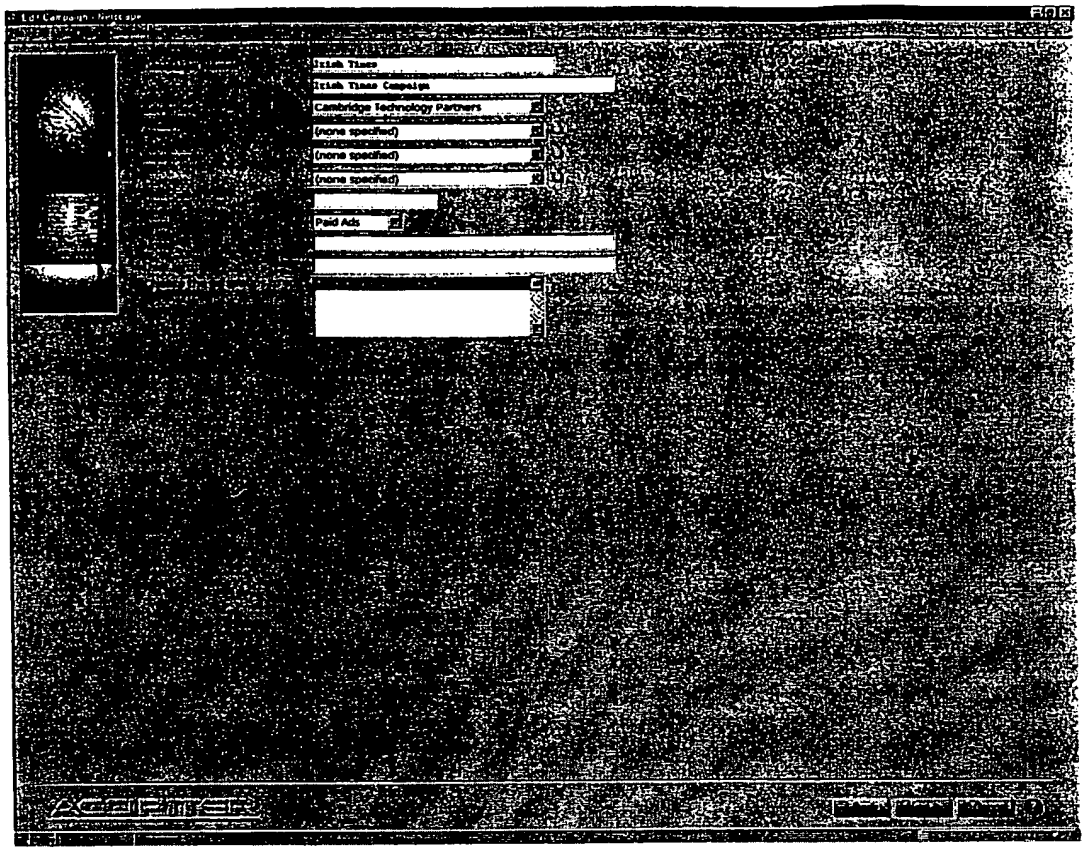
Irish Times
Irish Times Campaign
Cambridge Technology Partners
(none specified)
(none specified)
(none specified)
Paid Ads

FIG. 11

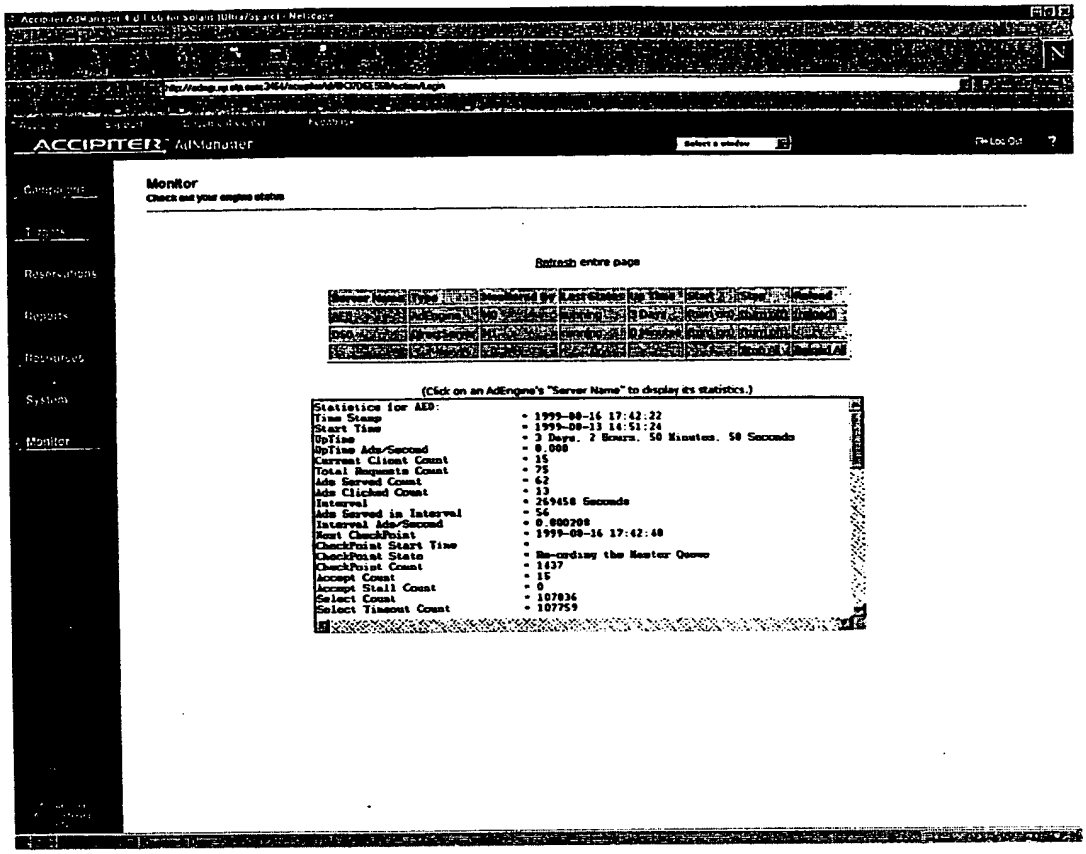
ACCIPITER AdManager
Monitor
Check out your engine status
Refresh entire page
(Click on an AdEngine's "Server Name" to display its statistics.)
Statistics for AE0:
Time Stamp = 1999-08-16 17:42:22
Start Time = 1999-08-13 14:51:24
UpTime = 2 Days, 2 Hours, 50 Minutes, 58 Seconds
UpTime Ads/Second = 0.000
Current Client Count = 15
Total Requests Count = 75
Ads Served Count = 62
Ads Clicked Count = 13
Interval = 269458 Seconds
Ads Served in Interval = 56
Interval Ads/Second = 0.000208
Next CheckPoint = 1999-08-16 17:42:48
CheckPoint Start Time =
CheckPoint State = Re-ordering the Master Queue
CheckPoint Count = 1437
Accept Count = 15
Accept Stall Count = 0
Select Count = 107836
Select Timeout Count = 107759

FIG. 12

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/00965

A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) :G09F 27/00, G06F 17/30, G06F 17/60
US CL : 705/14
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 705/14

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
DIALOG

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WEST (USPAT, EP, JPO, WO AND DERWENT)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0,8225,35 A2 (APTE et al) 04 JANUARY 1998, col. 6 L 1-55, col. 9 L 38-53, col. 10 L 41-57	1,2,4,5, 9-13, 19, 25
Y	US 5,717,923 A (DEDRICK) 10 February 1998, col. 3 L 37-67, col. 9 L 25-57, Fig. 6a, 6b, 7a and 7b	1,2,4,5,9-13,19,25
A	US 5,848,397 A (MARSH et al.) 08 December, 1998 Fig. 5, 8, col. 2 L 65- col. 5 L 44	1, 2, 4, 5, 9-13;19,25
A	US 5,727,129 A (BARRETT et al.) 10 March 1998, col. 4 L 64-col. 6 L 26	1, 2, 4, 5, 9-13, 19,25
A	US 5,835,087 A (HERTZ et al.) 10 November, 1998, entire document	1,2,4,5,9-13,19,25

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier document published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
17 MAY 2000	12 JUN 2000
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer TOD SWANN James R. Matthews Telephone No (703) 308-7791

Form PCT/ISA/210 (second sheet) (July 1998)*